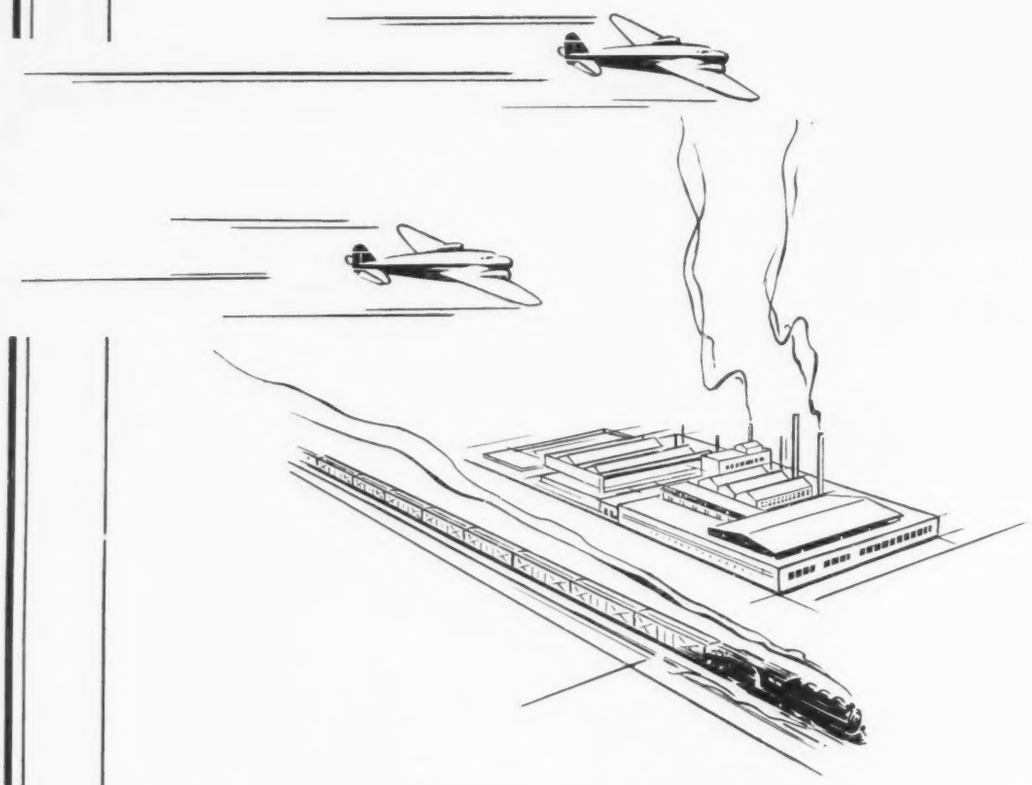
Textile World

SEPTEMBER, 1942

Synthetics

Versatile for Victory

SEE SPECIAL SECTION



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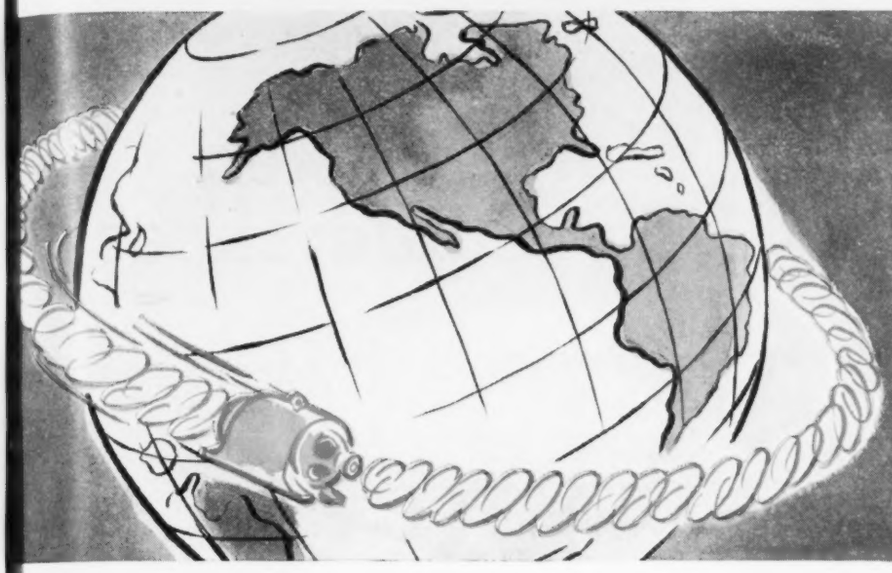

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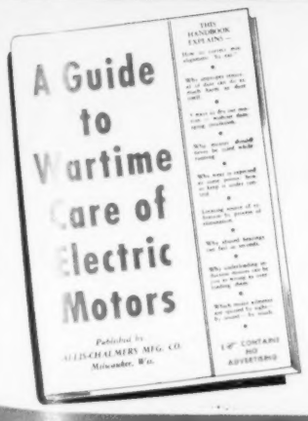

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World Cotton Conferences

Comments by Henry G. Lord

When I was writing the comments on Conventions last month, it brought to mind the two World's Cotton Conferences that were held after the first World War. I attended both of them. I doubt if there will ever be another held with the same ambitious objectives that led to those in 1919 and 1921.

The promoters of those conferences hoped that if the cotton manufacturers from various countries in Europe joined with the growers, manufacturers and those in collateral lines in the United States, many of their mutual problems could be ironed out.

These conferences were most interesting and beneficial to those who attended them and accomplished good in bringing together for general discussion all branches of business concerned with cotton manufacturing, but there was no adequate machinery set up for putting their recommendations into effect.

The first World Conference was held in New Orleans in October 1919 in conjunction with a joint meeting of the American and the National Associations. Over one hundred foreign delegates attended, representing seven European countries, most of them coming from the British Isles.

Elaborate plans were made for their entertainment and two special trains carried the delegates from New York and stations along the way to New Orleans. There were stop-overs with entertainment at Charlotte, at Greenville and a grand barbecue at La Grange, Georgia, on the estate of Fuller Callaway.

Four of the hottest days that I can remember were spent in the New Orleans convention and banquet halls with a side trip on the Mississippi River. Those were the days when there was no time limit on speeches and it really became an endurance test to those of us who were obliged to report the proceedings. On the way back visits were made to cotton plantations and to Memphis.

The particular accomplishment of that conference, apart from about fifty speeches, was the setting up of the machinery for what was intended to be a permanent World Cotton Conference.

The second Conference was held in Liverpool and Manchester, England, in June 1921. Irving Bullard, who was then treasurer of the National Association, and Rufus Wilson, secretary, did a fine job in organizing a representative American group.

Eighty-three delegates and many wives, relations and friends sailed on the "Adriatic" for Southampton. The eight-day voyage was the pleasantest crossing I ever made. Everybody soon knew everybody else and there was not a dull moment. When we landed, John Bancroft, Harry Butterworth and I chartered a motor car and motored up to Liverpool, where the first sessions of the Conference were held.

The English Committee had developed a wonderful program with work and entertainment pretty evenly divided. There was a banquet almost every evening and usually a committee lunch every day. I recall with some amusement that I was put on the Banking Committee, whose meetings were always the occasion for a delicious luncheon, and at some of these functions I recall meeting Stanley Baldwin, Sir Eric Drummond and important American and European bankers. Governor Manning, of South Carolina, was also a member of that Committee. I was also on the Committee of Statistics and Research and remember its chairman, John Syz, a Swiss manufacturer and vice-president of the International Federation of Cotton Spinners & Manufacturers. He was one of the most delightful men I ever met.

The various committees really did a lot of serious and hard work and their recommendations were constructive and would have been helpful had there been any machinery for carrying them out.

In my humble opinion, the two major reasons why no more World Cotton Conferences have been held are, first, the difficulty of financing the elaborate programs involved and, second, the feeling on the part of the European manufacturers that the International Federation is better able to serve their interests and that the World Cotton Conferences could only provide an opportunity for the friendly interchange of views on trade problems.

It may well be that when this war comes to an end, a new generation may feel that another World Cotton Conference may be helpful in solving the post-war problems. I hope I'll be on hand to attend.

HENRY G. LORD, ***founder of Textile World and president, Bragdon, Lord & Nagle Division, McGraw-Hill Publishing Co.***

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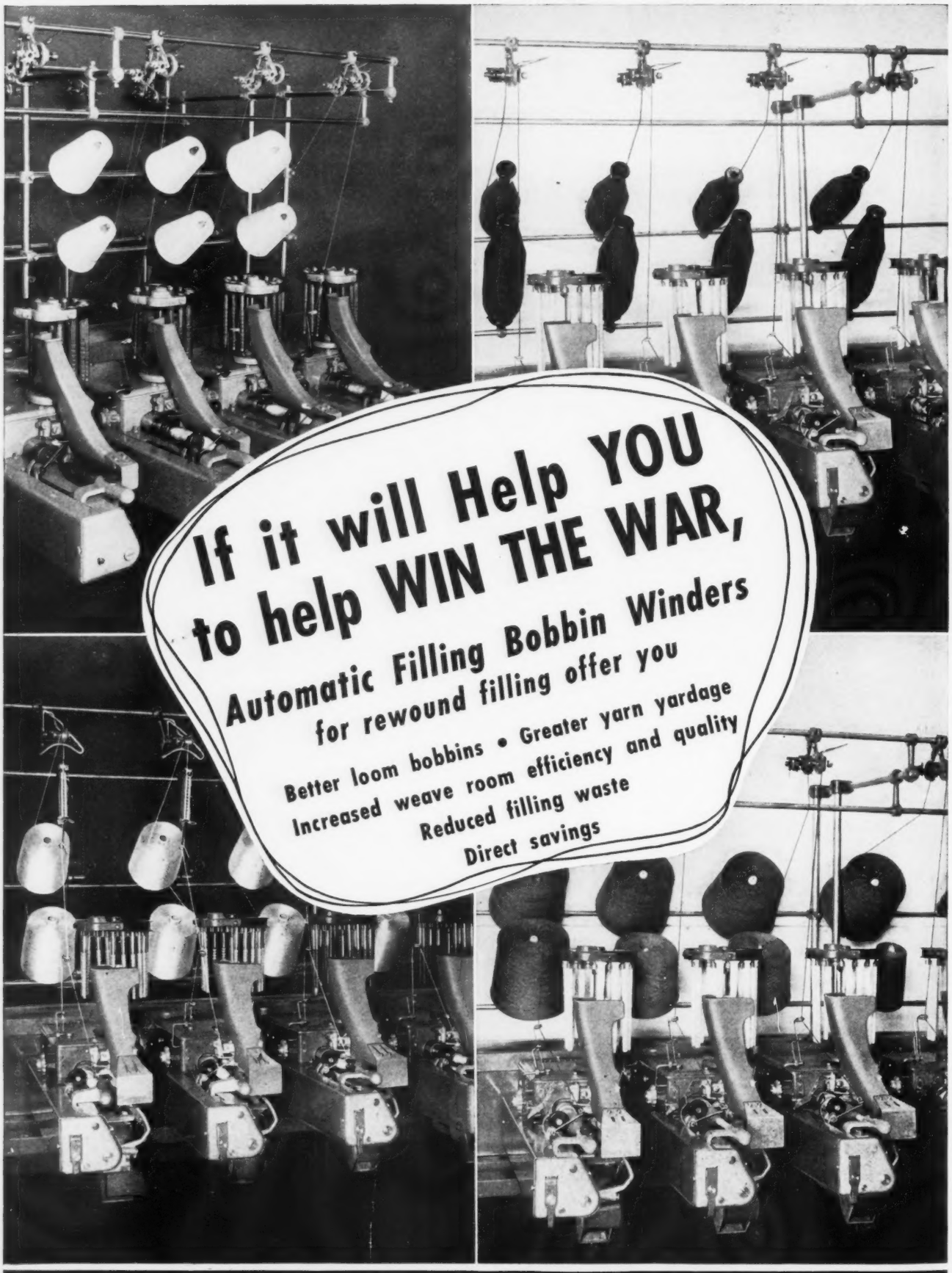

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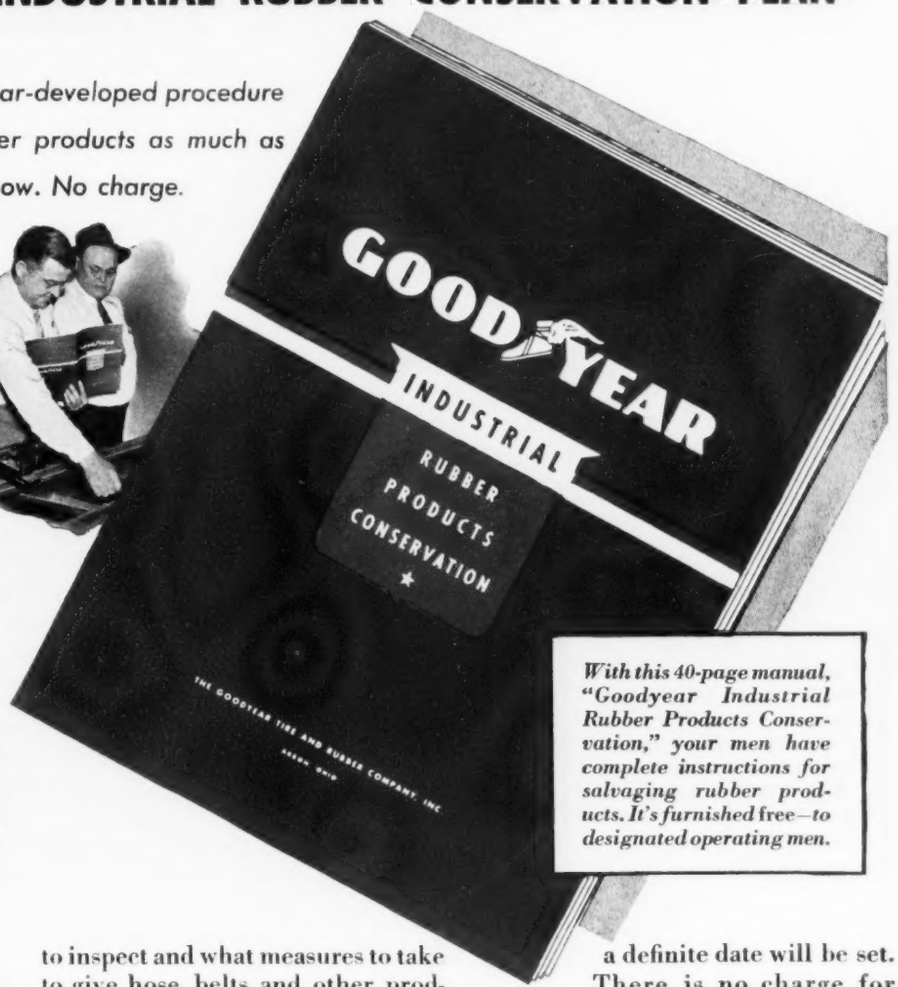

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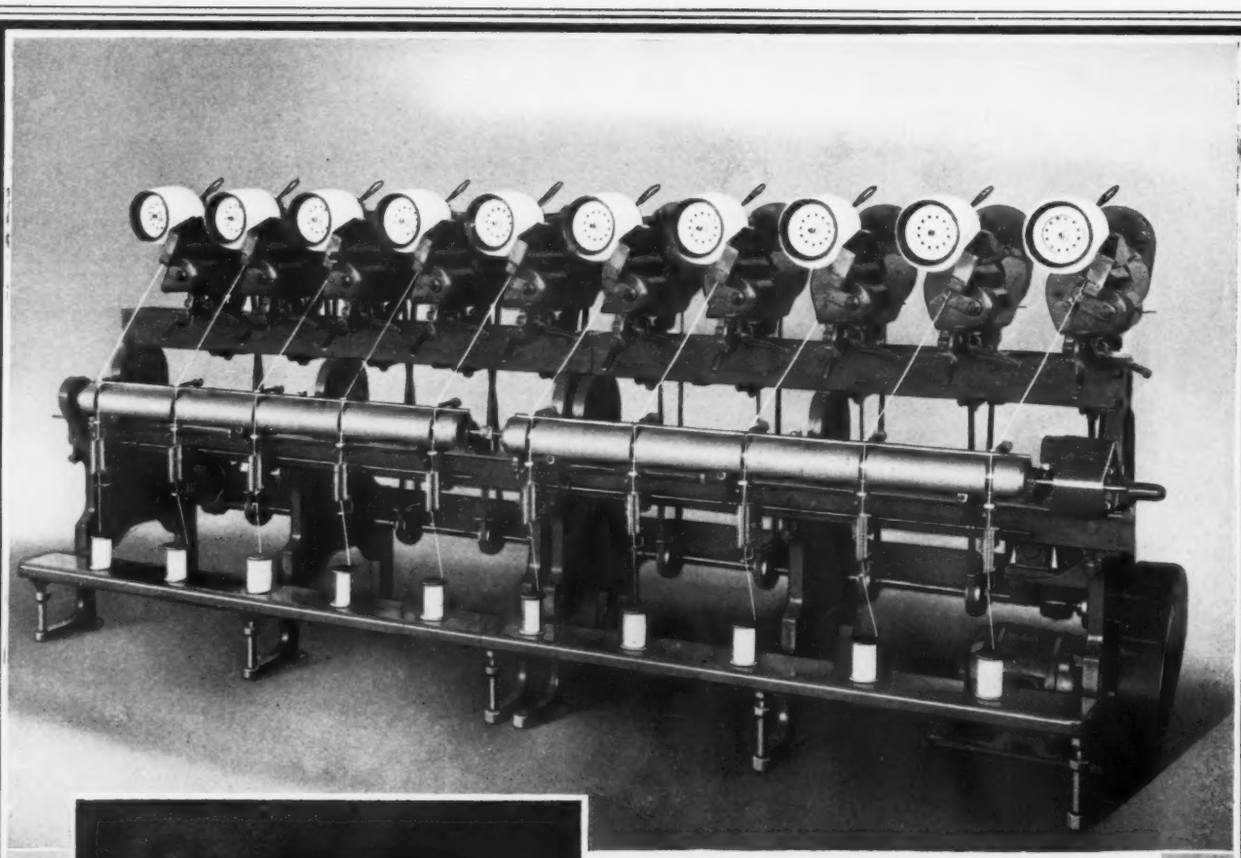

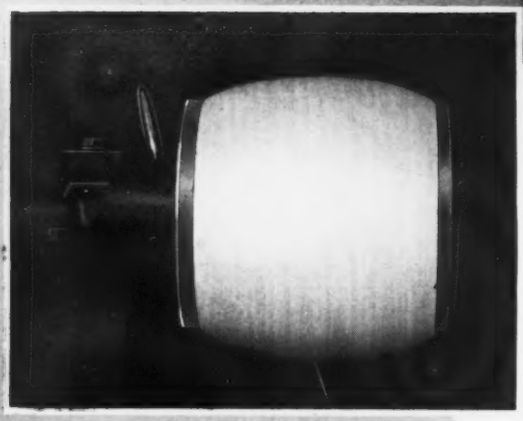

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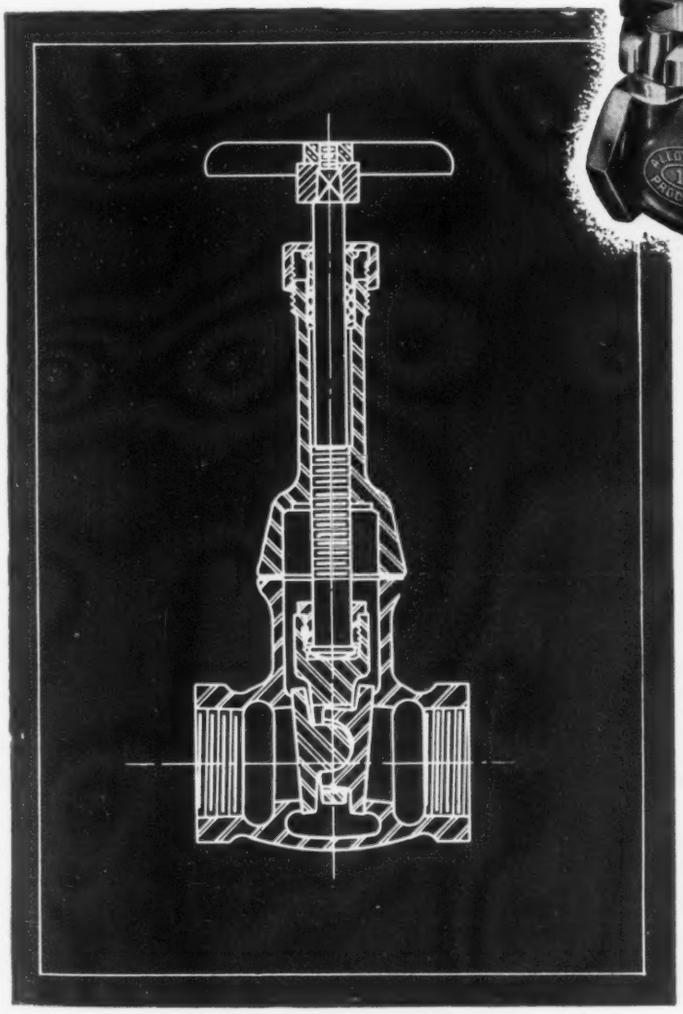

Illustrated is ALOYCO Number 90, Clamp type Gate Valve with Screwed ends. Made in sizes ½" to 2" inclusive in Chrome Nickel 18-8S.

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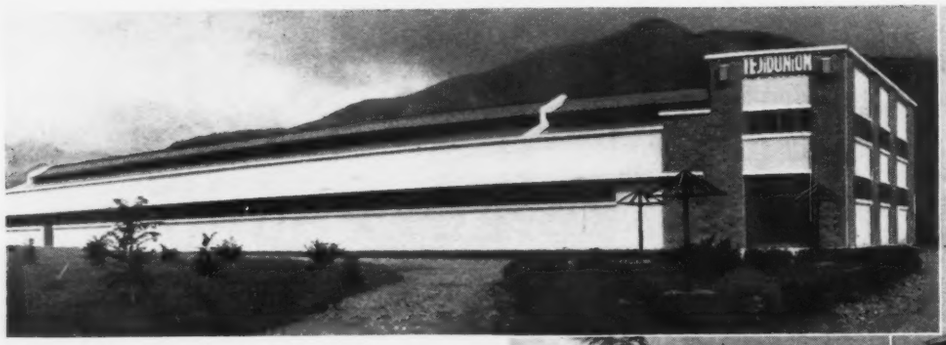
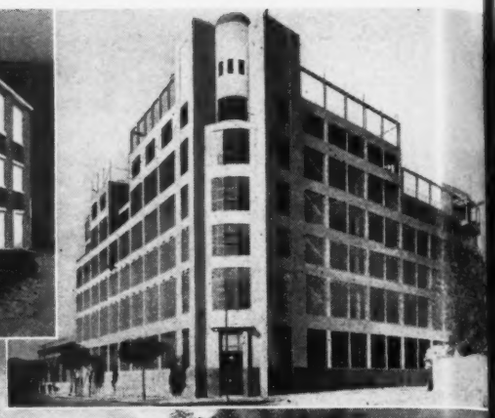
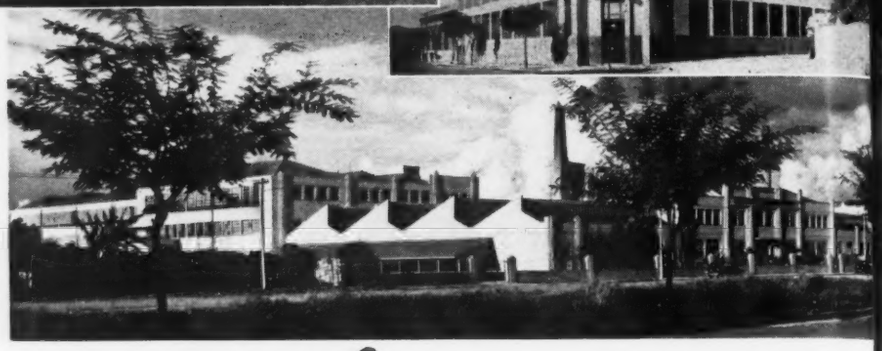


Cia de Tejidos Union, Medellin, Colombia



(Top Right) Manufactura Algodonera Argentina, S. A.
Buenos Aires, Argentina



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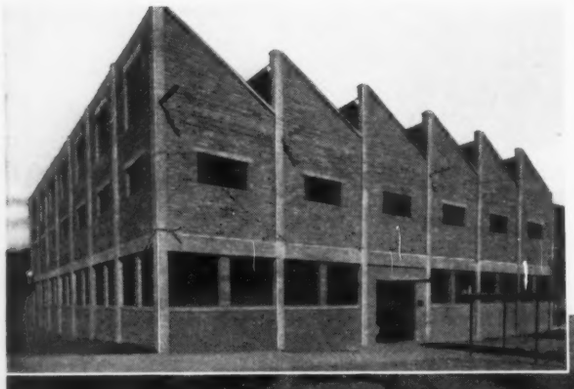
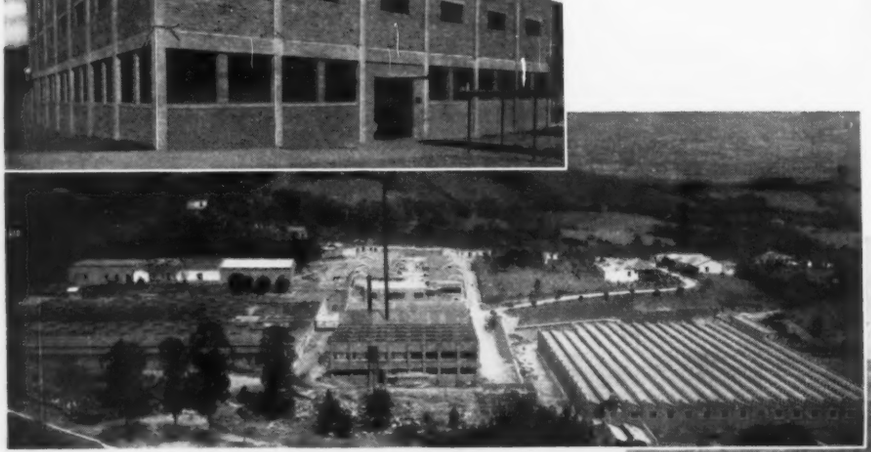
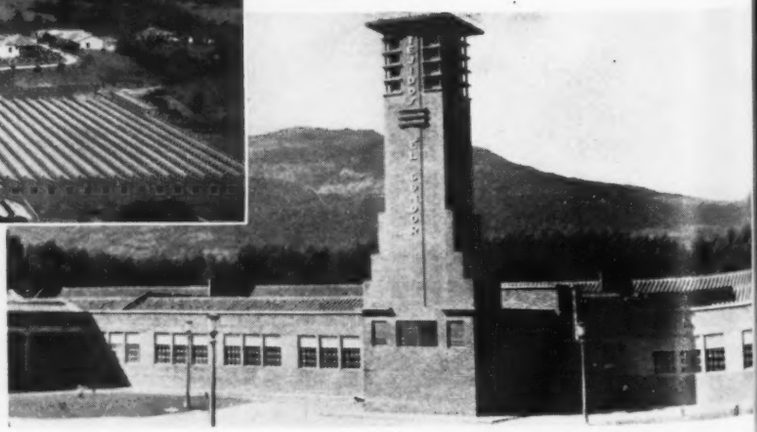
A STANDARD







(Top) Fabrica de Hailados y Tejidos del Hato, Medellin, Colombia

(Center) Cia de Tejidos de Rosellon, S. A., Medellin, Colombia

(Right) Tejidos El Condor, Medellin, Colombia

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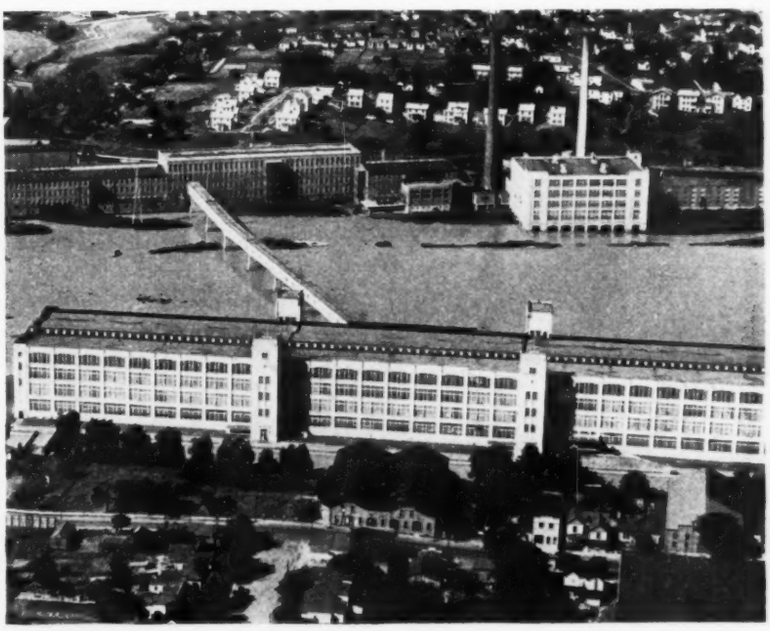

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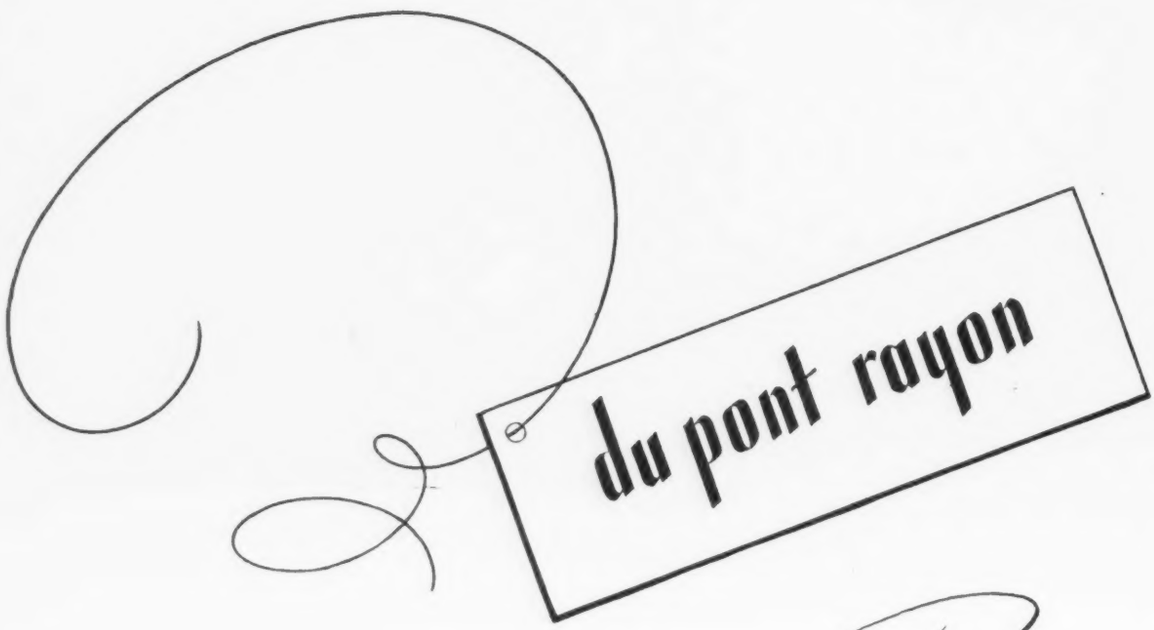

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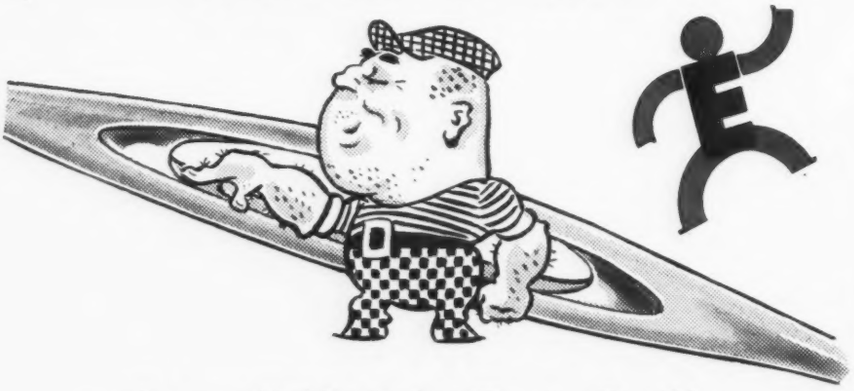

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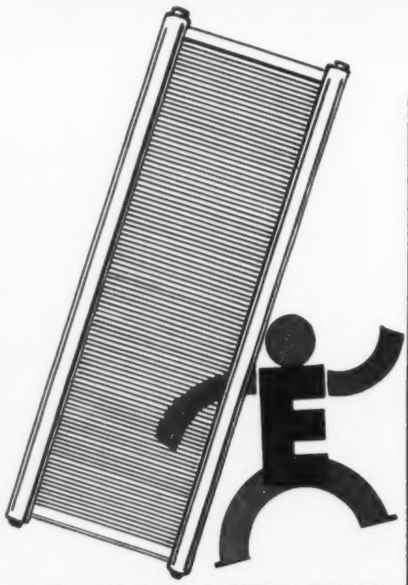

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Official U. S. Army Signal Corps photo shown in the exhibition Road to Victory, The Museum of Modern Art, New York

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Armstrong's Accotex Cots—Good friction. Ready-glued for fast assembly. Uniform, seamless, oil-resistant synthetic composition. Resilient, highly resistant to flattening, aid quick start-up. Highly resistant to grooving. Long service life.
For Twisting
Armstrong's Twister Roll Coverings—Three oil-resistant types: (1) Cork Composition Throwster Roll Coverings for upstroke twisting; (2) Helically-Wrapped Cork Cots for downstroke twisting; (3) Accotex Cots for wet twisting.
For Spinning
Armstrong's Seamless Cork Cots—Extra friction assures uniform drafting. Toughness assures long life. Can be rebuffed 3 or 4 times. Most rayon is spun on these cots. (Accotex Cots are suitable for frames with revolving clearers.)
For Weaving
Armstrong's Take-Up Roll Coverings—Plain Cork Ribbon, Gridded Cork Ribbon, and Cork-and-Synthetic Ribbon offer various degrees of friction to meet any requirements. All provide uniform tension with a smooth gripping action.

BECAUSE of their superior frictional properties, high quality, and durability, the materials shown above assure increased operating efficiency and aid the production of better, more uniform rayon yarns and fabrics. In addition to roll coverings, Armstrong provides a Buffing Machine to grind cork-covered and synthetic-covered rolls; Assembling Machines (hand-operated and pneumatic) to apply cots to spinning and card room rolls; Temple Rolls and Winder Spindle Head Covers of both cork and synthetic compositions; Waterproof Cement for assembling roll coverings and other materials.

Why not get the whole story about the mill-proved Armstrong Line of supplies for processing rayon? Write for the facts today! Armstrong Cork Company, Textile Products Section, 927 Arch Street, Lancaster, Pennsylvania.

ARMSTRONG'S ROLL COVERINGS

RESEARCH faces the emergency

From the laboratories have come our strongest weapons with which to fight the problems of raw material shortages. In textiles, as in other fields, the intensive research of the last few years has armed us for today's emergency with tested new materials to supplement the old.

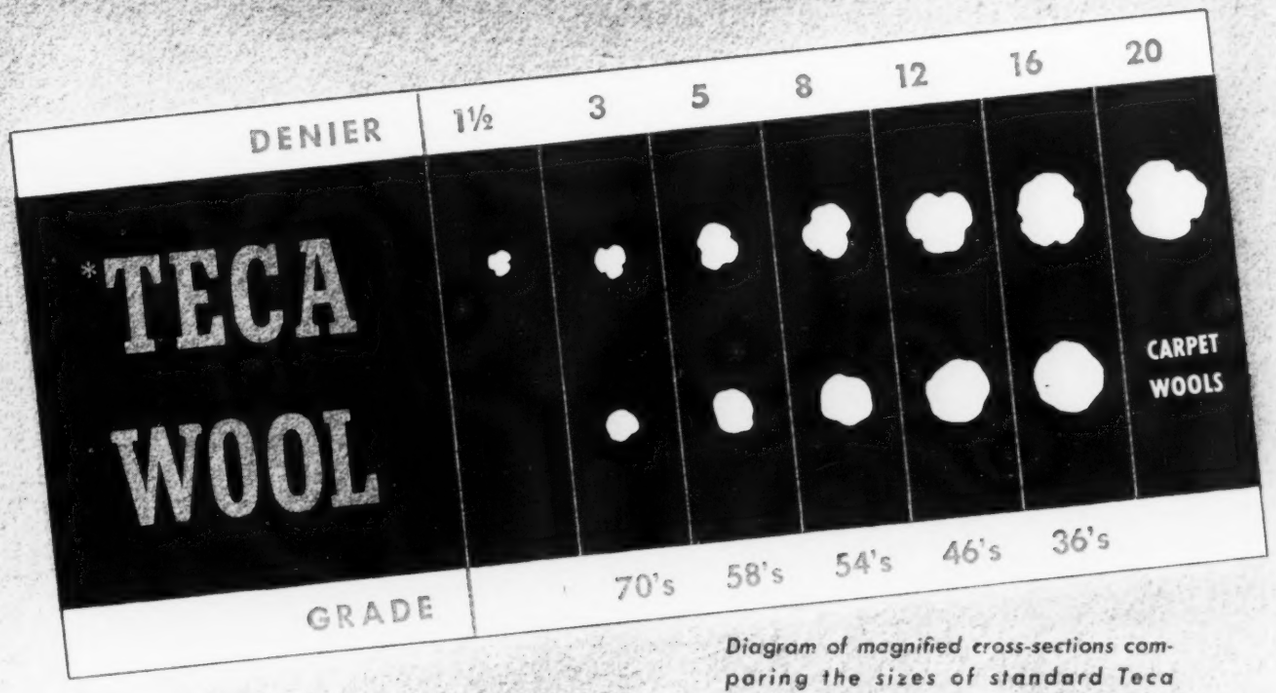


Diagram of magnified cross-sections comparing the sizes of standard Teca fibers with the sizes of commercial wools.

Teca, Eastman crimped acetate rayon staple, is now more than ever in demand, not only for classic spun rayon weaves, but for the entire range of constructions formerly achieved with wool. Teca's crimp makes for warmth and resilience, lively resistance to crushing and sagging. And Teca is a versatile fiber . . . it can be spun in an almost unlimited range of sizes. Not a substitute . . . not a compromise . . . but a real technical achievement.

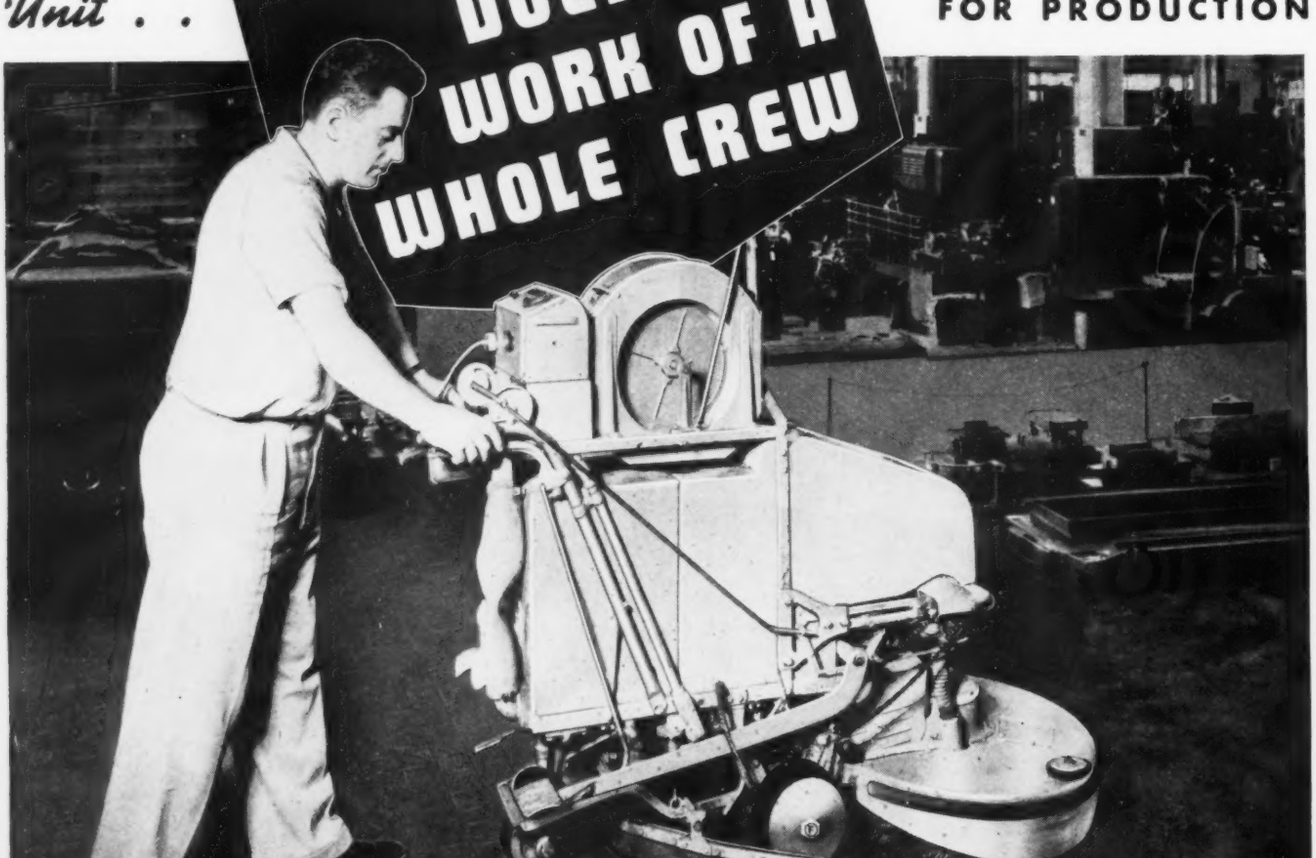
*EASTMAN CRIMPED ACETATE RAYON

For further information about Teca and its uses, consult the A. M. Tenney Associates, Inc., 10 East 40th Street, New York City, sales representatives for the Tennessee Eastman Corporation, subsidiary of the Eastman Kodak Company.

This Complete Scrubbing Unit . .

DOES THE WORK OF A WHOLE CREW

CONSERVES MAN-POWER FOR PRODUCTION



SCRUBS
PICKS UP DIRTY WATER
RINSES, AND
DRIES THE FLOOR

•

Averages

5,000 to 8,000 Sq. Ft.

Per Hour

The one machine incorporates—and so compactly—all the equipment necessary for the complete cleaning job. This *all-in-one* feature, combined with the speed of the machine, makes it possible for one operator to clean—hour for hour—many times the floor area possible with other methods and more operators. A larger size machine with a still greater capacity also is available . . . and there's a smaller size for smaller operations and congested areas.

For consultation, literature, or free floor survey, phone or write nearest *Finnell* branch or Finnell System, Inc., 1909 East Street, Elkhart, Indiana.

FINNELL SYSTEM, INC.

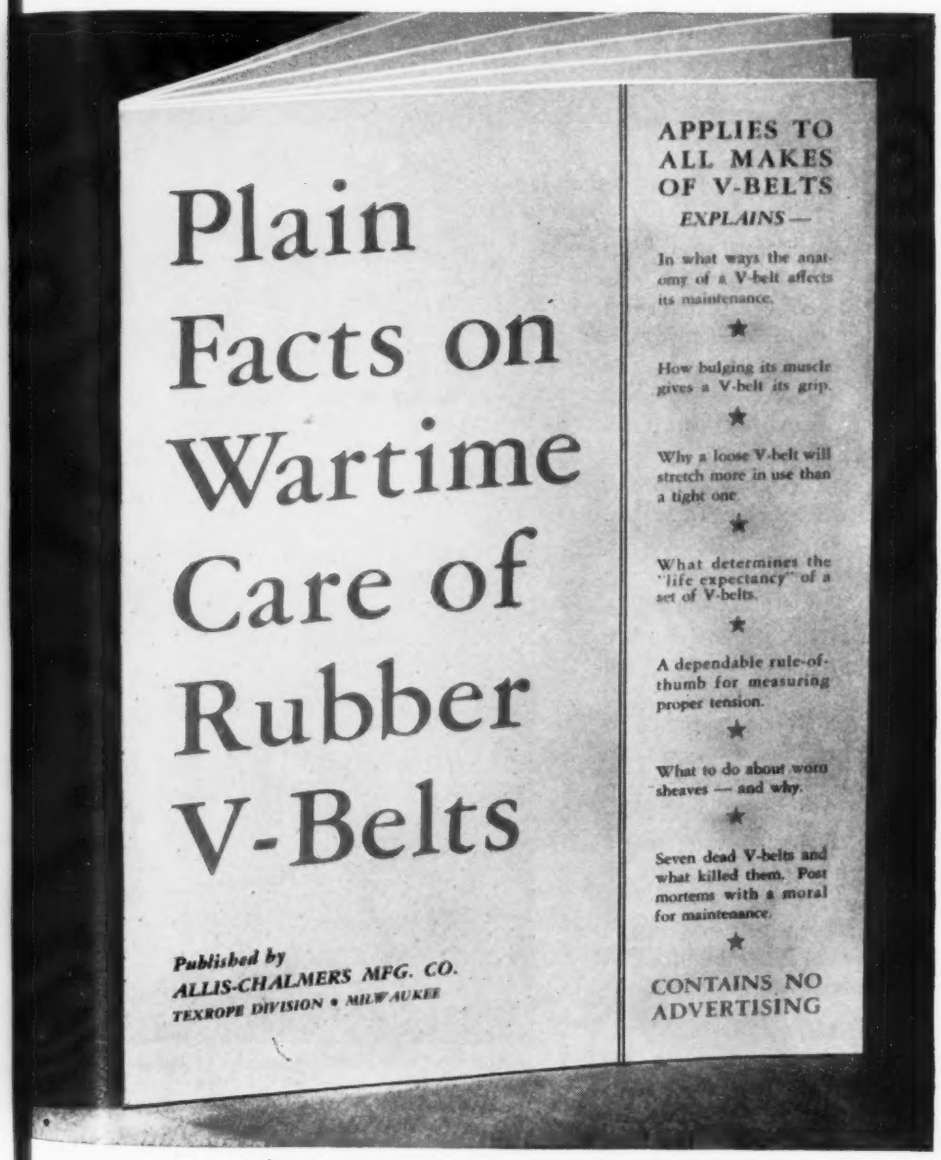
Pioneers and Specialists in

FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES

BRANCHES IN ALL PRINCIPAL CITIES

ANNOUNCING ALLIS-CHALMERS' NEW

Wartime Guide to V-belt Care!


Plain Facts on Wartime Care of Rubber V-Belts
Published by ALLIS-CHALMERS MFG. CO. TEXROPE DIVISION • MILWAUKEE
APPLIES TO ALL MAKES OF V-BELTS
EXPLAINS—
In what ways the anatomy of a V-belt affects its maintenance.
How bulging its muscle gives a V-belt its grip.
Why a loose V-belt will stretch more in use than a tight one.
What determines the "life expectancy" of a set of V-belts.
A dependable rule-of-thumb for measuring proper tension.
What to do about worn sheaves — and why.
Seven dead V-belts and what killed them. Post mortems with a moral for maintenance.
CONTAINS NO ADVERTISING

It's free to every engineer, executive and maintenance man now concerned with raising V-belt performance to new wartime standards of efficiency. Rubber V-belts are a precious national asset! And here's the full, interesting story on how to make them work better, last longer than ever before. Send to Allis-Chalmers for this valuable new handbook today!

[PRINCIPLE OF THE V BELT DRIVE]
Like Bending an Arm
...Bending a V-Belt
Bulges its Muscle!
HOW BULGING TENDENCY GIVES V-BELTS THEIR GRIP

FULLY ILLUSTRATED—It's packed with practical data...specially designed for training new men!

V-Day needs every V-Belt

FREE! Every engineer should have this important new handbook in his technical library. It applies to *all* makes of V-belts...contains no advertising. Tear out the order form and send it in *now!*

ALLIS-CHALMERS MFG. CO.
Milwaukee, Wisconsin

Gentlemen:

Yes, I would like to receive a *free* copy of "Plain Facts on Wartime Care of Rubber V-belts."

Name: _____

Title: _____

Company: _____

Street Address: _____

City & State: _____

A 1551-13

ALLIS-CHALMERS

TEXROPE* SUPER-7 V-BELTS

WE WORK FOR VICTORY — WE PLAN FOR PEACE

*Trade mark registered U. S. Patent Office. Texrope Super-7 V-Belts are the result of the cooperative research and design genius of two great companies — Allis-Chalmers and B. F. Goodrich — and are sold exclusively by Allis-Chalmers. Available in all sizes.....½ h.p. to 2,000 h.p.

5 MAJOR REQUIREMENTS For RAYON TWISTING

1 Large Packages
2 Free Delivery
3 High Spindle Speeds
4 Cleanliness
5 Continuous Operation

ALL THESE AND OTHERS MET BY BRAND NEW H&B RING TWISTER

This machine, designed primarily for rayon producers, will put up to 35 turns of twist into continuous filament yarn.

PACKAGES up to 3 lbs. net weight may be produced with a small head as illustrated, or headless. The tapered top and a high cross wind permit free delivery of even the finest denier slack twist yarns. Ten complete cycles of the traverse per minute are possible with this machine, which is 2 or 3 times more than are possible with the usual type of twister. There is no dwell at the top or bottom of the traverse.

SPINDLE SPEEDS up to 8500 R.P.M. are practicable, due to ball bearing spindles and exceptionally rugged construction of machine. Spindles are adjustable in length.

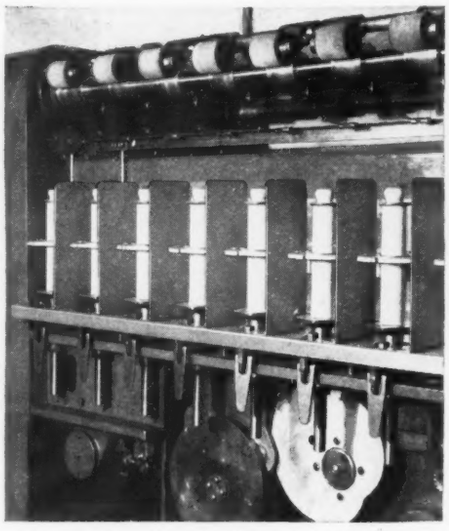
EXCEPTIONAL CLEANLINESS is made possible by a shield, over the tapes and other moving parts, which prevents them from throwing dirt and grease on the bobbins. Each bobbin is also isolated by stationary separator plates. Anti-friction bearings are used wherever oil might soil the yarn.

CONTINUOUS OPERATION, without repairs, for long periods is possible due to extra heavy, rigid construction, which minimizes localized settling of the frame and also permits machines to be shipped ASSEMBLED in 8 or 9 foot sections.

UNIT DESIGN is another new feature. Builder mechanism, speed reduction unit, change gear mechanism, and lifting mechanisms are all bench assembled and then bolted to the frame, so that each unit is readily accessible for repairs or can be temporarily replaced in an emergency. Thus normal improvements can be confined to individual units, while changes to suit customers pertain mostly to the frame.

Detailed information on request.

Packages produced on this machine. Size and shape can be varied exactly to suit requirements.



Section of machine showing patented self-contained builder motion unit.

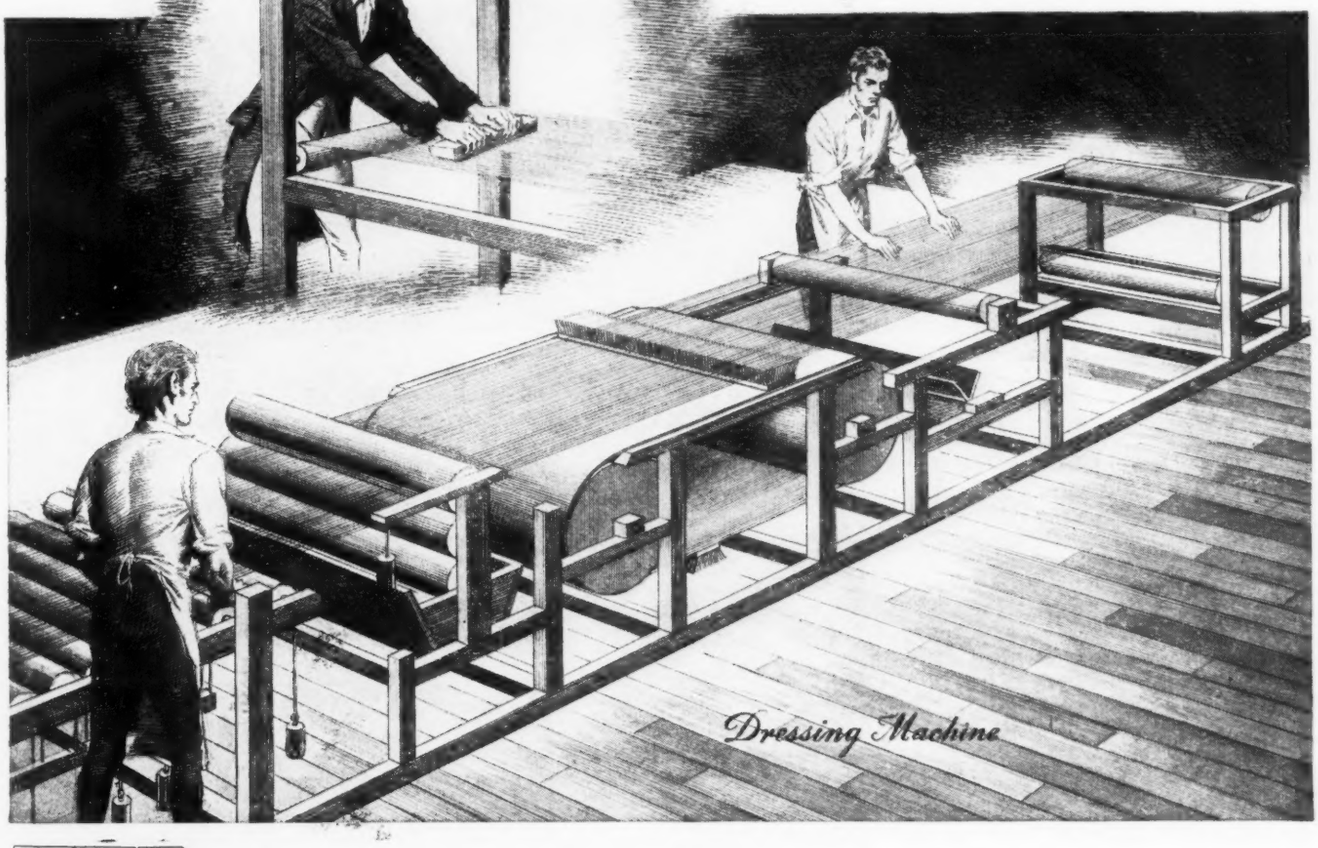
H & B AMERICAN MACHINE COMPANY

TEXTILE MILL MACHINERY • PLANT AT PAWTUCKET, R. I.

Boston Office: 161 Devonshire St. • **Atlanta Office:** 815 Citizens & Southern National Bank Bldg. • **Charlotte Office:** 1201-3 Johnston Bldg. • **Export Department:** United States Machinery Company, 115 Broad St., New York, U. S. A.

Warps Used to Stop to Get Dressed

When the Power Loom was first invented, its great efficiency could not be fully exploited, for it was still necessary to stop the loom frequently in order to follow the old procedure of rubbing large cakes of tallow on the yarn—to "dress" the warp.



Dressing Machine

WITH textile progress making such rapid strides, it was inevitable that some inventive genius would develop a machine to "dress" (slash) yarn in a more efficient and uniform manner. In 1803 it came. Radcliffe and Ross, who had experimented for more than two years, finally patented the first dressing machine and utilized *continuous* movement to achieve their purpose. At last, yarn could be dressed before being wound on the loom beam. The yarn was passed through a hot dressing of starch, compressed between two rollers, and was then dried over a succession of cylinders all in one *continuous* operation.

Essentially, all textile progress depends upon the same fundamental—the introduction of *continuous* movement. Industrial's engineers decided it was time to put it to work in rayon manufacture when they saw the delays and lack of uniformity control in the start—stop, multi-handling operations of conventional viscose rayon production. Their research led to the "Continuous Process" by which SPUN-LO yarn is spun, washed, bleached, treated, dried and twisted in *continuous* operations as a single thread. The resulting yarn is more efficiently produced, is more uniform in strength, lustre and denier, and is virtually free of knots and broken filaments.

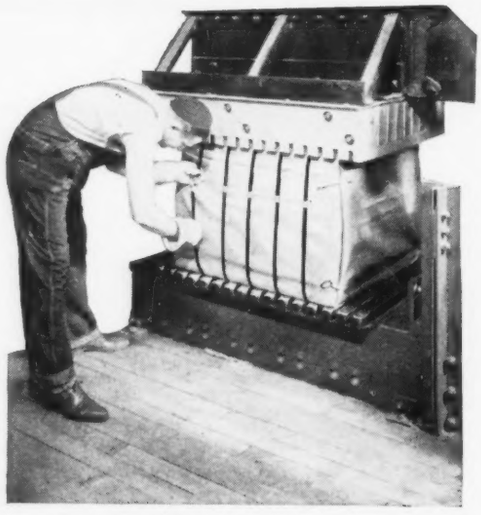
"CONTINUOUS PROCESS" Spun-lo Rayon
Reg. U. S. Pat. Off.

INDUSTRIAL RAYON CORPORATION • Cleveland, Ohio—New York Office, 500 Fifth Avenue

DOC STEELSTRAP REPORTS ON WAR SHIPMENTS OF THE TEXTILE INDUSTRY

REPORT NO. 1: ACME BALE TIE BANDS SAVE SPACE – CUT TARE WEIGHT –

Conservation of shipping and storage space is a vital part of the war program. Acme Bale Tie Bands, when used for baling, make possible the compressed type of pack which permits utilization of maximum shipping and storage capacities. In addition, tare weight is reduced—shipping costs are lowered.



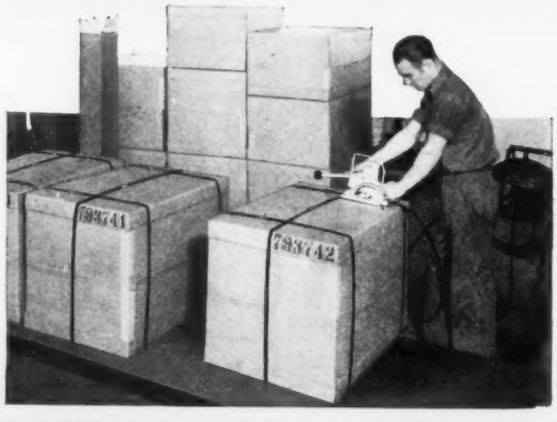
REPORT NO. 2: ACME SILVERSTITCHERS ASSURE SPEEDIER, FASTER, LOWER-COST BOX STITCHING

V-shipments move faster when Acme Silverstitchers are installed in the shipping room to provide easier and faster box stitching. And many concerns cut their sealing costs by as much as 50%. Acme stitching wire and equipment assure stitching satisfaction and are built to perform as a unit. There is an Acme Silverstitcher for every carton stitching application.

REPORT NO. 3: ACME STEELSTRAP PROTECTS CRITICAL LIST PRODUCTS, SPEEDS SHIPMENTS

Safety and speed are essential for Victory shipments. Reinforced with Acme Steelstrap, textile shipments are assured of maximum protection—faster, easier handling—more economical delivery. Cartons illustrated at right are speedily steelstrapped with the one-piece Acme 205 Steelstrapper. The time and energy-saving coil holder is conveniently located and is easily moved.

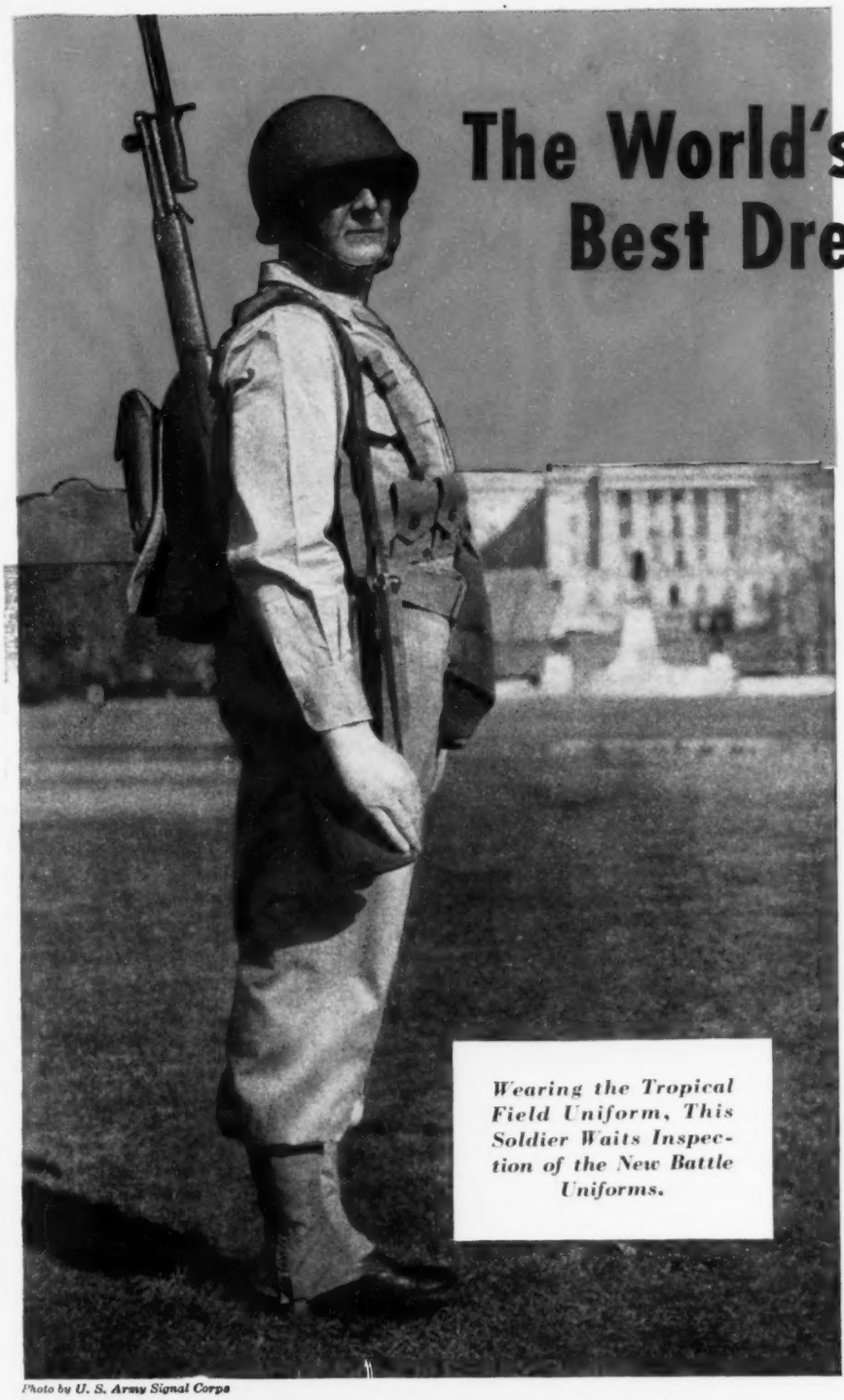
Be sure that your Victory products arrive safely, speedily and economically. Write today for full information on Acme Steelstrap, Bale Tie Bands and Silverstitchers. There is no obligation.



ACME STEEL COMPANY

ALSO BRANCHES AND SALES OFFICES IN OTHER PRINCIPAL CITIES

2838 ARCHER AVENUE, CHICAGO
603 STEWART AVENUE, S. W., ATLANTA
146 SUMMER STREET, BOSTON
103 PARK AVENUE, NEW YORK



The World's Best Dressed Man—

Wearing the Tropical Field Uniform, This Soldier Waits Inspection of the New Battle Uniforms.

Photo by U. S. Army Signal Corps

Better than any other Civilian group, the Textile Industries well know how staggering, complex and efficient has been the job of making America's fighting men—the best dressed in the world. And to help make them so, the Textile Industries have assumed responsibility for producing, with amazing speed, the vast quantities of incredibly varied fabrics and uniform cloths required by our Armed Forces of land, sea and air.

This determination to "deliver the goods" in the typical American way has been an inspiration to all those who have cooperated with the Textile Industries in serving this great war production effort. As makers of Textile Products for spinning and weaving operations, Dayton is proud to be numbered among them.

In addition to serving the Textile Industries, Dayton's facilities and production experience are today being dedicated to the manufacture of special parts for Army and Navy Combat Equipment.

THE DAYTON RUBBER MFG. CO.
DAYTON, OHIO

HOME PLANT, TEXTILE PRODUCTS DIVISION
WAYNESVILLE, NORTH CAROLINA

The Originators and Pioneers of Dayco Tempered Roll Coverings

MAIN SALES OFFICE
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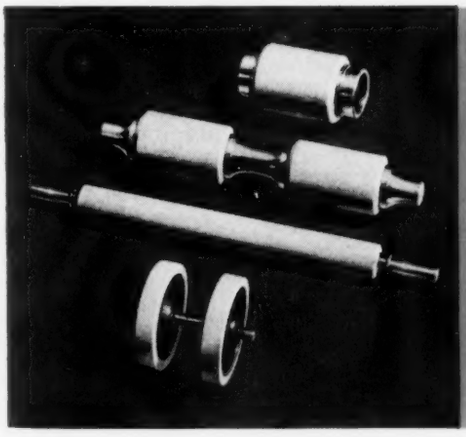
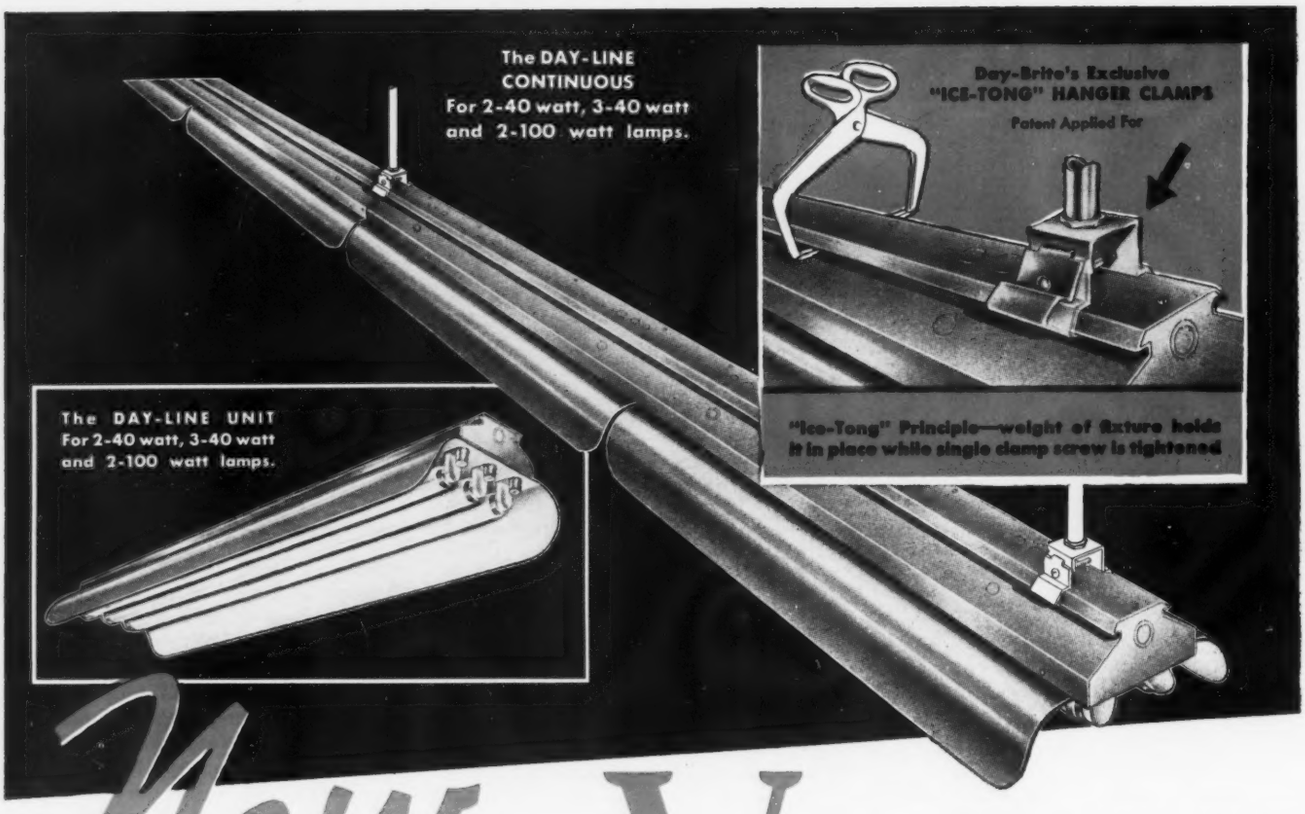
EXPORT DIVISION
DAYTON RUBBER EXPORT CORPORATION
38 Pearl Street New York, N. Y. U. S. A.



Dayton
***Thorobred* TEXTILE PRODUCTS**
Dayco TEMPERED **ROLL COVERINGS—LOOM SUPPLIES**
MADE BY THE WORLD'S LARGEST MANUFACTURER OF V-BELTS

Copyright 1942, The Dayton Rubber Manufacturing Company



New VICTORY

with

NON-METALLIC REFLECTORS

Three Advantages Are Combined in the fluorescent fixtures comprising the Day-Brite Victory Series: (1) High reflection values and long life are assured by Day-Brite's "Super-White" baked enamel finish . . . (2) Speed in installation and ease of servicing are achieved through simplified mechanical design . . . (3) Maximum rigidity of the entire installation is assured by truss-like construction.

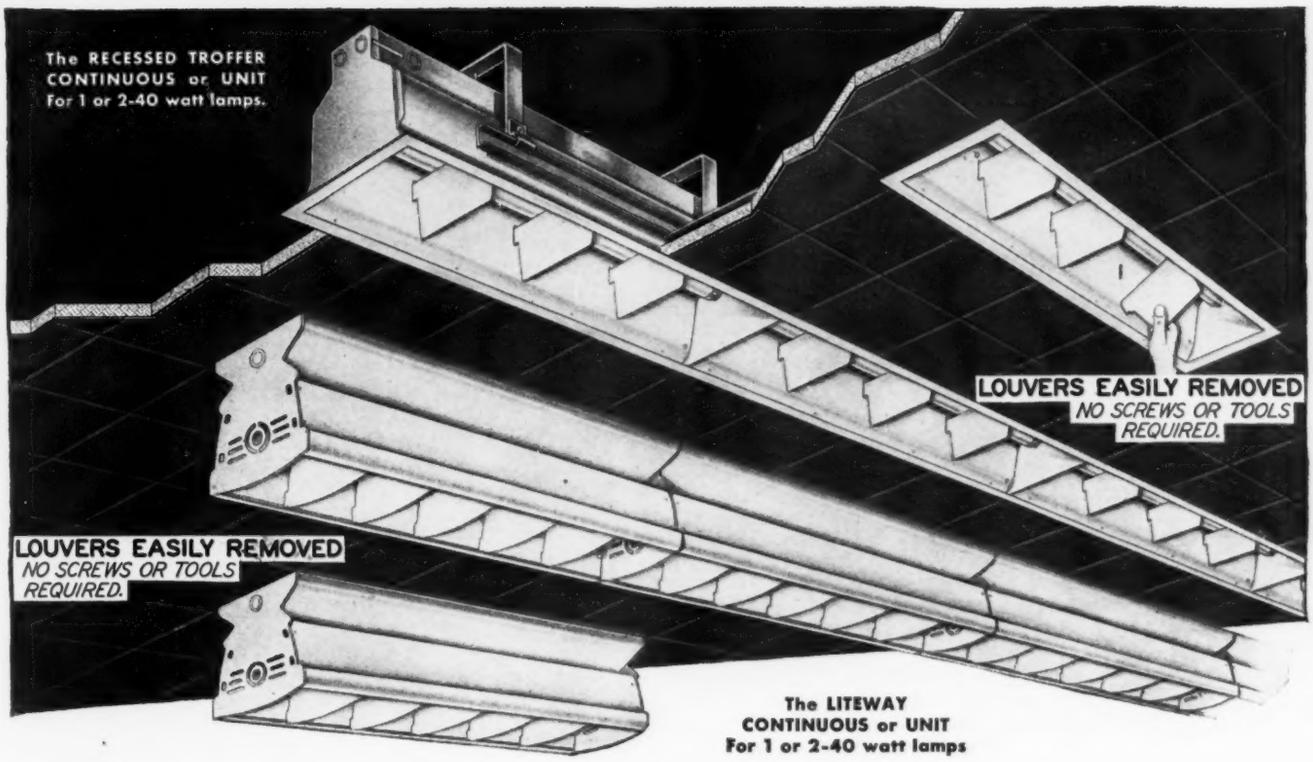
The DAY-LINE . . . CONTINUOUS with "ICE-TONG" HANGER CLAMPS

For Industrial Applications, the Day-Line System of continuous lighting provides a flexible method of installing long, unbroken lines of luminaires. Foot-candle intensities can be easily regulated by varying the number of lamps used, or by spacing the reflectors at intervals on the wiring channel. Installation is particularly simplified by Day-Brite's exclusive "ICE-TONG" Hanger Clamps.

LOW COST INSTALLATION SPEED with "ICE-TONG" HANGAR CLAMPS

It is unnecessary to spot exact center locations for these "one-position" mounting hangers. For any type of suspension, they are merely positioned at any point parallel with the length of the channel. The jaws of the hanger receive the channel and hold it in place (like an ice-tong holds a block of ice). Turning down one screw rigidly locks the hanger clamping jaw in position.

DAY-BRITE LIGHTING, INC., 5498 BULWER AVE., ST. LOUIS, MO.



SERIES FLUORESCENT FIXTURES

The RECESSED TROFFER

Especially adapted to initial installations in all acoustical type ceilings. Ideal for long continuous runs, or unit applications. Louvers are quickly removable for speed in servicing or re-lamping.

The LITEWAY

In essential respects similar to the Recessed Troffer, except that the LITEWAY is specially designed for quick mounting on existing ceilings of all types—either in long continuous runs or units.

VICTORY BEGINS WITH LIGHT

Light is the Nation's No. 1 production tool! Make the Most of the Best of it . . . Specify Day-Brite Victory Series Fluorescent Fixtures. . . . Call Your Day-Brite Engineering Representative.

DayBrite Rivals Daylight — Adds Victory Hours!

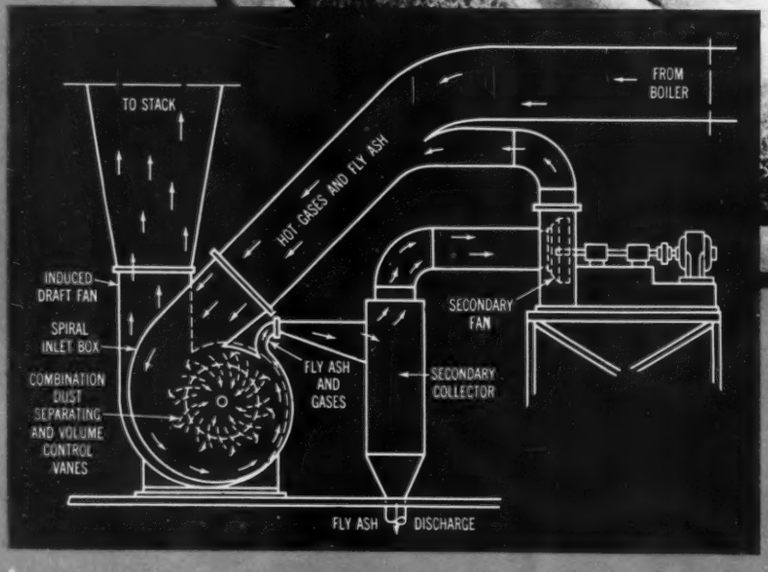
Patent Nos. 2,281,346, 130,740
Other Patents Applied For

Day Brite
Reg. U. S. Pat. Off.
FLUORESCENT
FIXTURES

56

The COMPLETE LINE OF FLUORESCENT LIGHTING FIXTURES *Nationally distributed through all leading electrical supply houses*

FLY ASH IS "



UNIQUE STURTEVANT "REVERSE-FLOW"

The Diagram at left and illustration above show the principle used to collect fly ash in the S.A.I.D. system, while preventing the ash from contact with the fan wheel. The portion of the gases carrying the concentrated dust is removed from the inlet boxes and carried to a collector for disposal—the clean gases being returned to the system.

"SIDE TRACKED"

BEFORE IT HITS THE WHEEL

ABRASION of induced-draft fan wheels by fly ash has become an increasingly urgent problem under today's extremely high capacity ratings. Given really severe ash and load conditions, the life of an unprotected induced draft fan wheel may be measured in terms of WEEKS! Yet to obtain necessary materials for replacement of worn-out equipment may take MONTHS.

Sturtevant meets this situation with a *combination* Induced-Draft Fan and Dust Collector System that sidetracks fly ash *before* it hits the wheel. Developed out of the years of research by engineers working in Sturtevant's Dust Control Laboratory and in the field, this combination unit embodies a unique "reverse-flow" design which utilizes the weight of the flying ash particles to separate them from the flue gases. Even in cases where a majority of the fly ash present will pass through a 325 mesh screen this S.A.I.D. system removes a high percentage of the "fines".

Sturtevant can help you solve your fly-ash or other dust-collecting problem. The Sturtevant combination induced-draft fan and dust collector is only one of many developments made possible by exhaustive research in Sturtevant's Dust Control Laboratory. The same knowledge and experience that produced this new unit is yours to command in the fight against destructive dust – everywhere that it menaces war production.

B. F. STURTEVANT CO., HYDE PARK, BOSTON, MASS.

Branch offices in 40 other cities

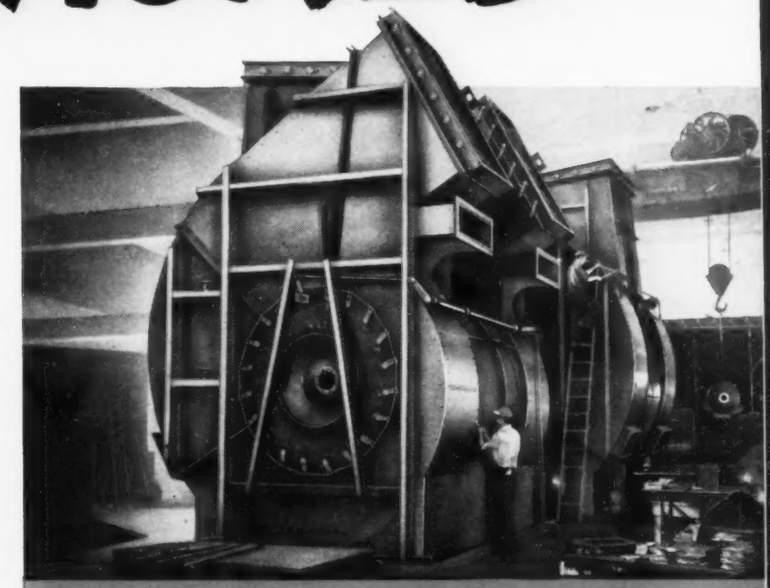
B. F. Sturtevant Co. of Canada Limited—Galt, Toronto, Montreal

Licensed under Allardice patents 2087789, 2182862, 2287853

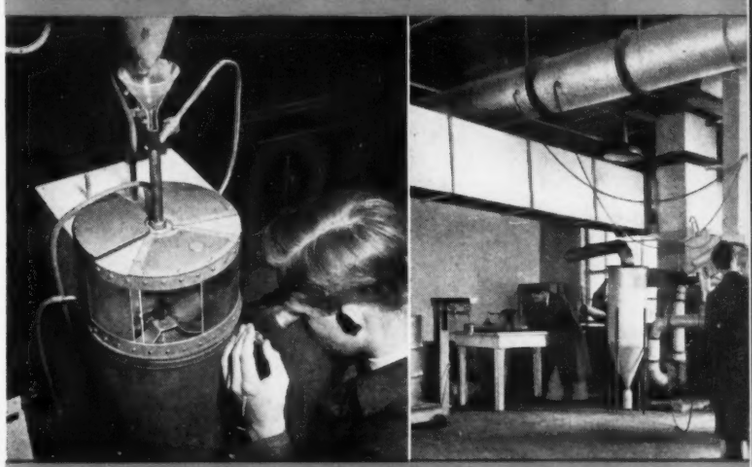
Sturtevant

REG. U. S. PAT. OFF.

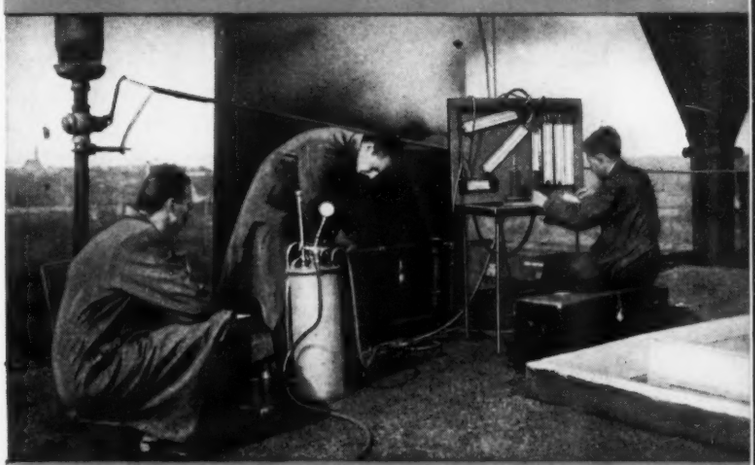
Puts Air to Work



STURTEVANT S.A.I.D. FAN—Shop view of giant S.A.I.D. Fan ready to "Join the service" producing vital power. After a *year* of heavy duty service by this fan, practically no sign of wear was visible when inspected. The built-in Dust Collecting System proved so effective the life of the fan has been materially extended.



TRACKING DOWN THE "CRIMINALS" that cut ordinary fan wheel life to weeks . . . Size and nature of dust particles, size of collector, air velocity—all of these factors must be studied in solving dust-collecting problems. In the views above, Sturtevant technicians are seen using some of the unique equipment in the Dust Control Laboratory.

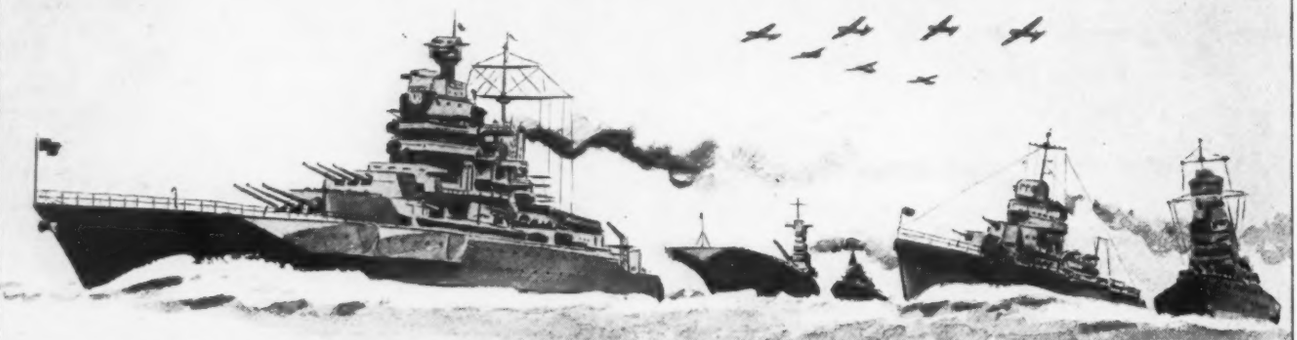


FIELD TEST—Sturtevant Engineers gather flue-dust samples to determine the quantity as well as the characteristics of fly ash.

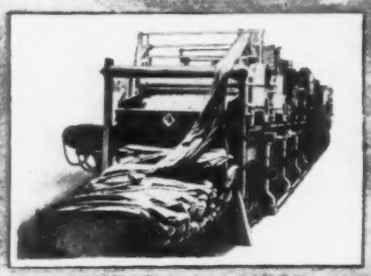
DRAFT FANS • TURBINES • GEARS • ECONOMIZERS • AIR HEATERS

The Fleet Line

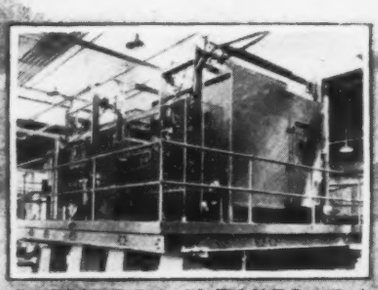
OF FINISHING EQUIPMENT



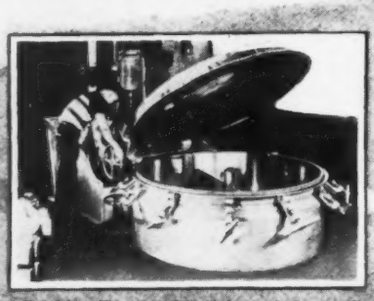
INCLUDE THESE MACHINES IN YOUR AFTER-THE-WAR PLANS



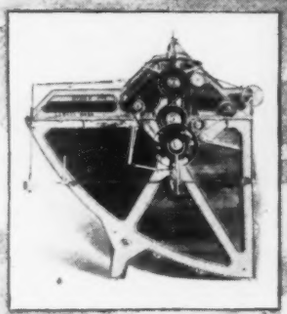
CONTINUOUS WASHER (Patented) First machine of its type to successfully handle heavy and dirty fabrics as well as light weight fabrics. Production is from 13 to 54 yards per minute. Automatic control permits one operator.



DERBY DRY CLEANER (Patented) Cleans cloth direct from loom with non-inflammable solvent, which is recovered. Removes tar, chalk marks, paint and 99.8% of process oil, which also is recovered and used again. Scouring eliminated. Other important savings.

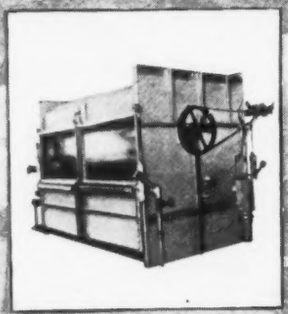


STAINLESS STOCK DYE KETTLE. Unit construction eliminates outside circulating pipes. Pump, submerged in dye liquor, requires no packing. Motor on top, easy to reach and keep clean. Stock unloaded on false bottom with electric hoist.



STAINLESS FULLING MILL. Replaces 2 or 3 old mills and handles from 2 to 14 pieces at one time. Pays for itself in 3 years or less time, because of increased production and savings in soap, dead loss and labor. Uniform and superior finish.

CARBONIZING RANGE. Includes wet out box, squeeze rolls, soaking tank, acid squeeze rolls, tenter dryer, baker, crusher and neutralizer. Production is continuous and this particular range will carbonize 32 oz. fabrics up to 80" wide from 17 to 20 Y. P. M.



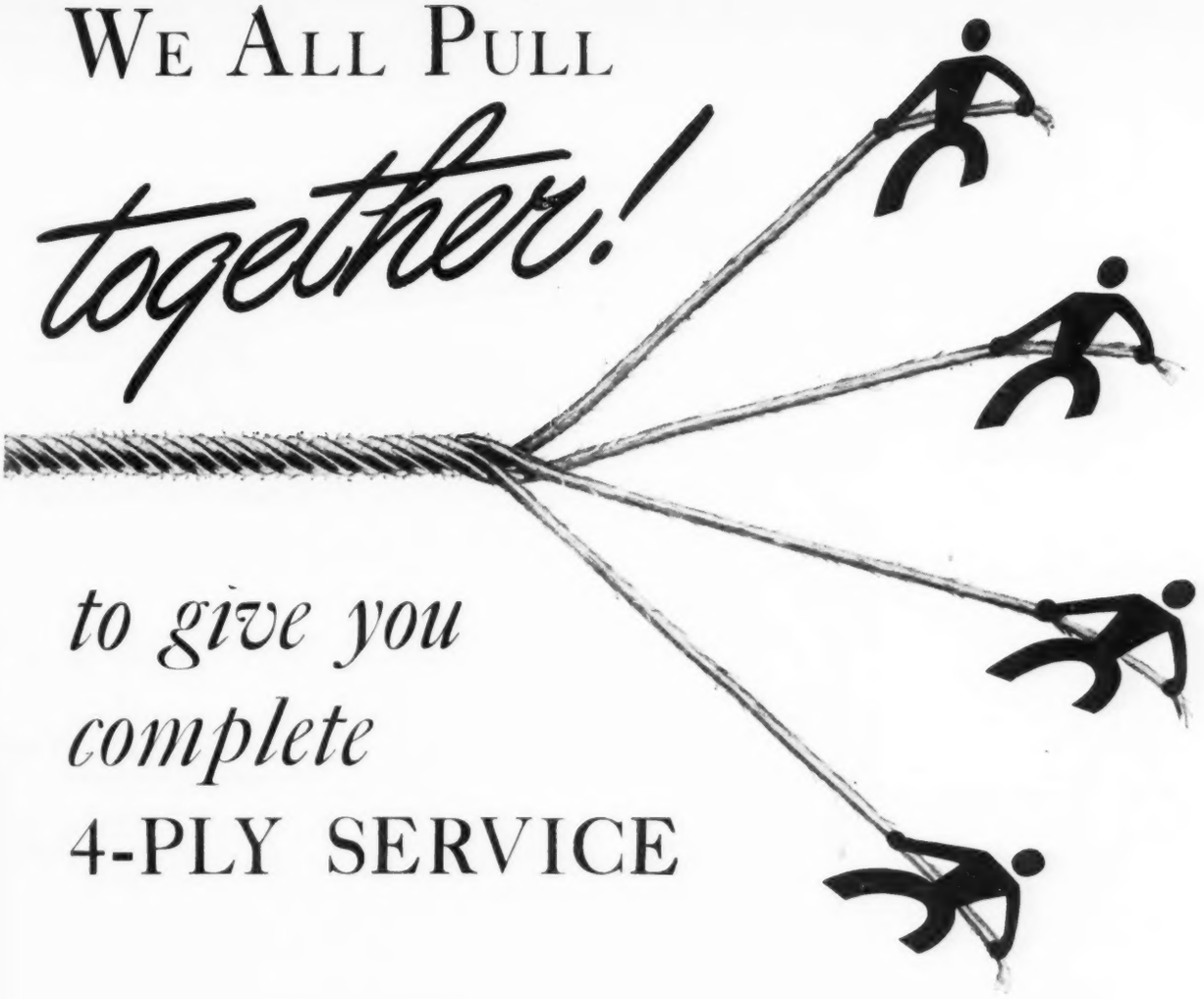
TYPE TLBT PIECE DYE KETTLE. Extra large drum type reel with Multi-Grip partially knurled surface virtually eliminates tangles, tie-ups, wrinkles, creases and streaks. Substantial savings in all classes of dyestuffs. Wide adaptability. Stainless steel.

RIGGS AND LOMBARD
INCORPORATED

Foot of Suffolk Street, Lowell, Mass.

ALSO: Batch Washers • Dye Becks • Rope Soapers • Soaping Machines • Pusher Mills • Soap Distributing Systems • Bleach Tubs • Top Dyeing Machines • Yarn Steamers

WE ALL PULL *together!*



to give you complete 4-PLY SERVICE

WE BELIEVE in letting the left hand know what the right hand is doing. Thus, if one research department is working on a weaving problem, and it so happens that a *new yarn* is needed to solve that problem, another research department gets a chance to do part of the job.

The same thing is true of *fabric development* and the giving of *sales assistance*. All departments are *coordinated* to give you the advantage of expert assistance in *all* phases of textile production.

Whenever you have a problem involving rayon . . . whether in spinning, warping, weaving, knitting, dyeing and finishing, or in the development of new fabrics . . . it will pay you to bring your problem direct to a great rayon headquarters—American Viscose Corporation. Our 4-PLY SERVICE is ready at all times to aid you—without a penny's cost. We welcome every opportunity to be of service to you.

FOUR-PLY SERVICE

1 **FIBER RESEARCH**—Helps you to get the right yarns.

2 **FABRIC DEVELOPMENT**—Helps you to design new fabrics.

3 **MILL TECHNIQUE**—Helps solve mill problems.

4 **SALES ASSISTANCE**—Helps sell finished fabrics.

SALES OFFICES: New York, N. Y.; Charlotte, N. C.; Providence, R. I.; Philadelphia, Pa.

PLANTS: Marcus Hook, Pa.; Roanoke, Va.; Lewistown, Pa.; Nitro, W. Va.; Parkersburg, W. Va.; Meadville, Pa.; Front Royal, Va.

CROWN TESTED AND APPROVED RAYON FABRIC

AMERICAN VISCOSE CORPORATION

Producer of CROWN* *Rayon Yarn and Staple Fiber*

Copr. 1942—American Viscose Corp.

*T. M. Reg. U. S. Pat. Off.

The Boss Spinner says:

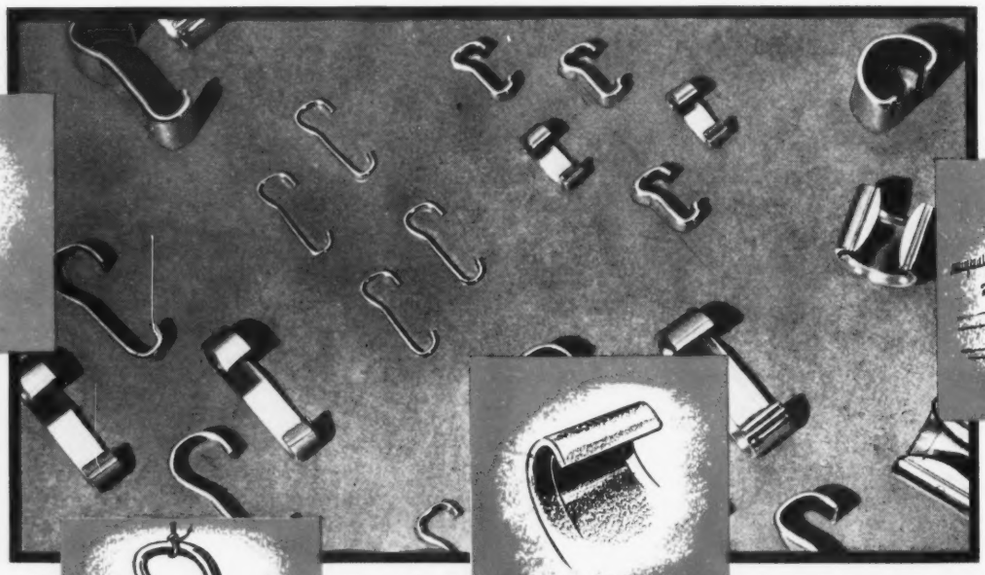
"Give me Ring-T

KEEP MY MILL

IN *PRODUCTION*

THE NE-BOW

Prevents yarn ends flying out, provides ample headroom for threading—prevents binding on ring. Note "bend inward" at top of horn.



HEAT CONTROL

for better metal—dominates "U.S." production. Carburizing and tempering ovens are electrically controlled through pyrometers — for better performance.

THE BEVEL EDGE

Great pioneering "U.S." contribution to smooth spinning, twisting. Eliminating angular edges, gives uniformity of tension, more even yarn, less "fly."

PERFECT BALANCE

Weighs same on both sides. Straight part of shank is in center of gravity. Distributes lubricant and wears evenly. Will not pivot twisting self and rayon.

U S

No. 1 OF A SERIES
BASED ON INTERVIEWS WITH TEXTILE MEN who want more production

Traveler Service that will

In these days of 24-hour-a-day, six-days-a-week production of textiles, you can't afford to use Ring Travelers that are not backed up by Service that keeps your mill GOING.

If you should possibly run short of Travelers and get on the phone and want more of the same, exactly the same grade, you want to know that you will be able to *get them* without any delay. You don't want excuses; you want Travelers! That's what you *get* when you buy U. S. Ring Travelers.

You may think that there's not a lot of difference in Ring Travelers. But one of the factors that influences textile men to go on buying U. S. Ring Travelers year after year, is the fact that we turn ourselves inside out to deliver exactly the same grade and quality of Travelers, year after year. That makes a big difference sometimes!

With the war-conversion now taking place in textile yarns and products, it may be equally essential for a company to get a different design of Traveler – quickly. This, by our long experience and our specialized facilities, we are able to guarantee you. And when you get your regular Travelers, or your new Travelers, from U. S., they will not be a "spotty" lot. If you are getting a certain number of Travelers that will give 6 weeks of service, and you order more of the same, you will not get another lot that will run only 2 or 3 weeks, or even less. *If they are U. S. Ring Travelers, you will get the same good service from the second, third and fourth lots as you did from the first.*

The uniformity of U. S. Ring Travelers is a by-word throughout the textile field, among mill men who appreciate real care and production. Make no mistake about it, U. S. Ring Travelers will keep your mill in production because, as experienced manufacturers, we know all the various factors that influence the performance of Ring Travelers. When we work with you, we take into account the types of rings you are using, the weight of the work and count of the yarn; your various spinning speeds, and those other things that make or break Traveler performance. That is why experienced textile men depend upon our cooperative service to keep them out of trouble.

If you have any Traveler troubles, and want real cooperation based on practical experience in this field, have one of our men come over and see you. Without taking up too much of your time, or putting you to any expense, he will probably be able to solve your Traveler (and related) problems. This service will cost you nothing – but it's a sure-fire guarantee of continuous production.

If you want "the same as you've always used" in Ring Travelers — you can get it from "U. S." If you want helpful advice on improved Traveler design or service — "U. S." can give you that, too.

Sold under these trade names

- Bowen Round Point Travelers
- Bowen Square Point Travelers
- Bowen Improved Vertical Bronze
- Bowen Patented Bevel Edge
- Bowen Flat Oval and Round Wire Travelers
- Bowen Patented Ne-Bow Vertical
- Bowen Patented Vertical Offset

U. S. RING TRAVELER COMPANY
PROVIDENCE, AMOS M. BOWEN, Pres. and Treas. RHODE ISLAND

Sales Representatives:

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Carl W. Smith Herbert J. Smith both % U. S. Ring Traveler Co. P. O Box 1187, Providence, R. I	William P. Vaughan Oliver B. Land Torrence L. Maynard William H. Rose	P. O. Box 792 Greenville, S. C. P. O. Box 158 Athens, Georgia P. O. Box 456 Belmont, N. C. P. O. Box 792 Greenville, S. C.	M. Lee Bolton, P. O. Box 7234, Philadelphia, Pa

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A Traveler for Every Fibre

THE TRAVELERS THAT KEEP GOING!

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L. F. Dommerich & Company

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FACTORS

For Manufacturers and Merchants

Inquiries as to our services solicited

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ESTABLISHED 1840

They Gladly Give Them UP for VICTORY!

For a quarter-century the women of the nation have enjoyed the many benefits of Franklin Process Yarn Dyeing. Now they forego these benefits, so that our armed forces may be quickly and economically clothed and equipped.

Are YOU speeding production and promoting conservation by utilizing Franklin Process? In terms of victory requirements, the benefits are as follows:

1. Our four dye houses assure local, neighborly yarn dyeing service for four major textile centers.
2. Our large capacity and experience promote prompt deliveries to manufacturers of military fabrics.
3. Our method of dyeing aids in accurate matching and quick corrections of shades.
4. It saves critical materials by using a minimum amount of dyestuffs and chemicals.

Franklin Process

LARGEST PACKAGE DYERS IN THE WORLD

★ Providence, Philadelphia, Greenville, Chattanooga; New York Rep., 40 Worth Street; Chicago Rep., 100 W. Monroe Street.

Let us help YOU to hasten **VICTORY.**

HOW TO GET LONGER LIFE *and* BETTER WORK FROM CARD CLOTHING

When Carding Rayon Staple

Pay particular attention to the feed end of your card, for many of the difficulties in carding rayon can be overcome there.

Feed Roll—Use our metallic feed roll which maintains a firm hold on the lap, assuring even feeding and thereby reducing cylinder jams.

Lickerin—Install our specially developed lickerin wire for rayon cards.

Consult one of our practical service men. The carding of rayon staple presents many unusual problems which he can help you solve.

ASHWORTH

PIONEERS IN CARD CLOTHING . . . *ASHWORTH BROS., INC.*
Woolen Div. AMERICAN CARD CLOTHING CO.

3 FACTORIES
FALL RIVER
WORCESTER
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6 REPAIR SHOPS
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SOUTHWESTERN REPRESENTATIVE: • TEXTILE SUPPLY CO., DALLAS, TEXAS

PRODUCTS AND SERVICES: Card Clothing for Cotton, Wool, Worsted, Silk and Asbestos Cards and for all Types of Napping Machinery • Brusher Clothing and Card Clothing for Special Purposes • Lickerin Wire and Garnet Wire • Sole Distributors for Platt's Metallic Wire • Lickerins and Top Flats Reclothed

Sewing and Saving —WITH TUBIZE

A Timely Heading

Specific Merchandise

Style and Beauty

How to Save

Assurance of Service

Enlist this lingerie for your WAR ON WASTE
RAYON LINGERIE THAT'S PRACTICAL, THAT LASTS, THAT PUTS NO STRAIN ON YOUR WARTIME BUDGET
Velshyn Lingerie of Tubize Rayon Jersey
Petit Point Trimmed Dirndl Gown sizes 32-40...about $3
Bradtop, Side Midriff Slip sizes 32-44...about $2
For names of stores write to Sircom Knitting Co., 303 Fifth Ave., New York
These are days when everything has to last. Fine lingerie wears longer when given intelligent care. Follow these simple, time-saving, money-saving rules:
when buying
• DON'T BUY HURRIEDLY—take time to seek the qualities that stand for durability:
• closely-knit fabric
• well-proportioned styling for comfort
• when walking or sitting
• dainty yet strong seams that won't pull out or fray with normal wear
• don't buy garments too small—when in doubt about size, ask your saleslerk
when washing
• WASH AFTER EACH WEAR—gently and quickly in rich suds of a mild soap and lukewarm water
• squeeze suds through fabric—avoid hard rubbing and twisting
• rinse thoroughly—squeeze out excess moisture
• hang evenly over a smooth line or rod to dry—away from heat and sunlight
• if you wish to press, be sure the iron is at "low"—heat—NEVER HOT—and press lightly on wrong side while garment is slightly damp
when mending
• KEEP A WELL STOCKED MENDING KIT—replete with fine needles and threads—ribbons and tapes
• mend each little tear and rip before it "runs" into a major task
• don't puncture the threads in fabrics with too-coarse needles
• keep your undies fresh and new looking by replacing worn shoulder straps—reinforcing frayed waistbands—with matching tapes or ribbon
The Tubize Certified Quality label sewn in the seam of your dresses or lingerie not only indicates that the fabric is made of Tubize Rayon but that it has been tested and is certified to be satisfactory in respect to strength, color and cleanability. Tubize Chatillon Corporation, manufacturers of Rayon Yarns and Fabrics, Two Park Avenue, New York City
fashioned in TUBIZE certified quality RAYON
Protected by Two Bees
One of a series of Tubize advertisements in Life, Good Housekeeping, Vogue, Mademoiselle and Glamour, that points to specific merchandise made of Tubize Rayon and identified by the Tubize Certified Quality Label. The simple hints on the care of garments are helping American women to save and serve.

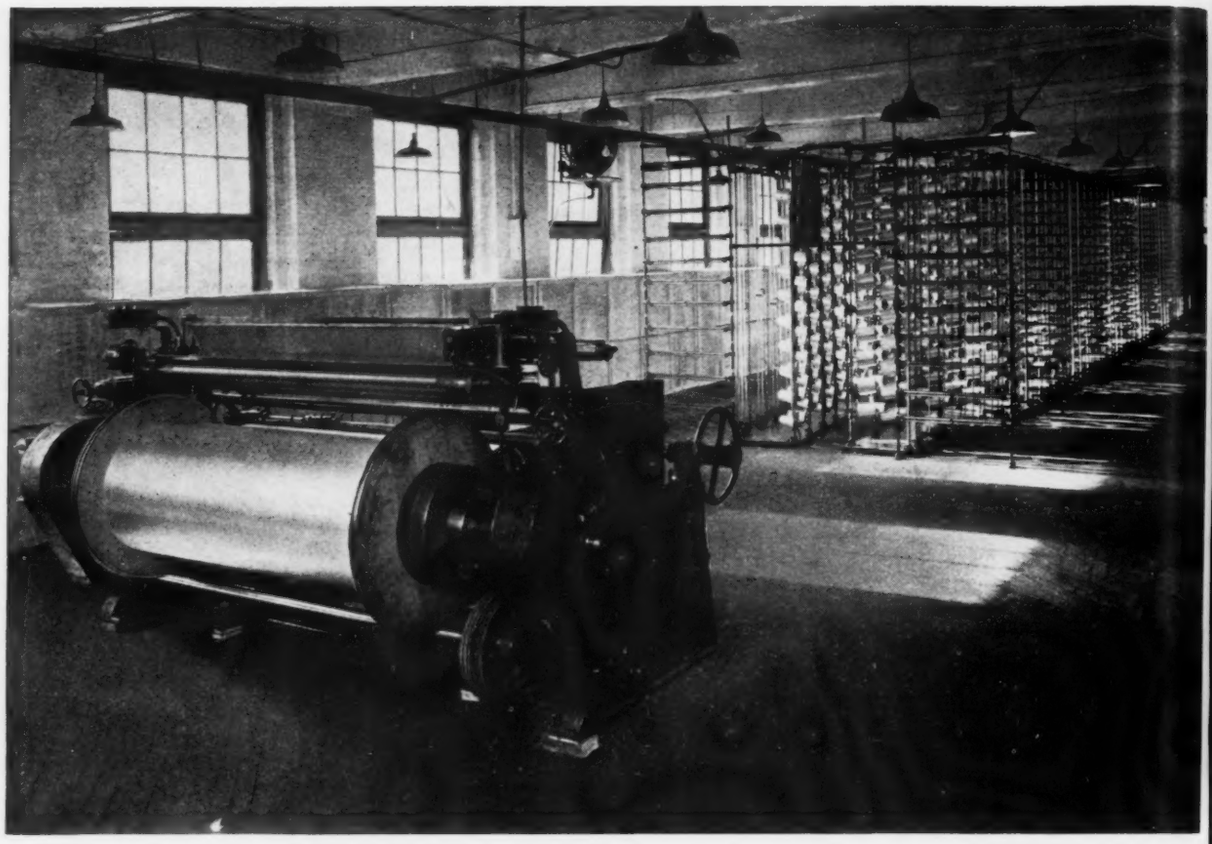
As rayon plays a greater and greater part in clothing Civilian America, beauty and serviceability go hand in hand...beauty of fabric and garment to inspire morale...serviceability to insure long wear so necessary to war-time conservation. Tubize serves you who make and sell and those who wear serviceable, stylish, economical rayon...serves by upholding a known standard of quality—the Tubize label—and by educating the consumer in the care of fine fabrics made of Tubize Rayon.

TUBIZE CHATILLON CORPORATION ★ 2 PARK AVENUE, NEW YORK

Acetate and Viscose Rayon Yarns and Fabrics

fashioned in TUBIZE certified quality RAYON

The Tubize Certified Quality Label on your merchandise adds more than an extra sales stimulus...it adds an assurance to both merchant and consumer that the fabric is serviceable; that it has been tested and is certified for color, wear and cleanability...and this assurance has been constantly advertised both to consumer and the trade for years.



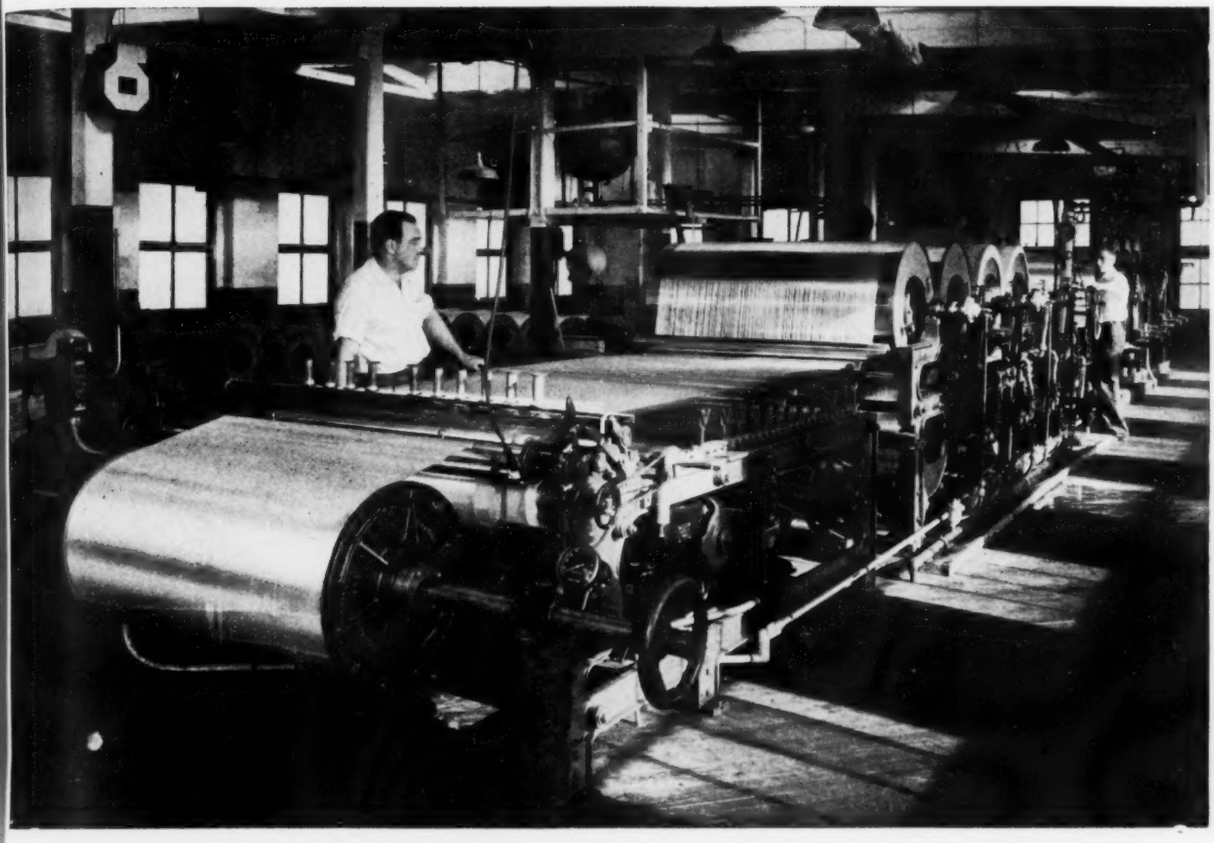
High-Speed Spindle Driven Warper with Magazine Cone Creel and Electrical Eyeboard stop motion for Rayon.

Illustrated above is the COCKER HIGH SPEED RAYON WARPER Equipped with Magazine Cone Creel and Electric Eyeboard Stop Motion. Also THE COCKER HIGH SPEED RAYON SLASHER.

These finest of Warp Preparation Machines are operating twenty-four hours per day, producing Warps of the finest quality to be woven into clothing for our Fighting Men.

COCKER MACHINE and

Builders of Complete Warp Preparation Equipment for



Cocker Seven Cylinder High-Speed Rayon Slasher.

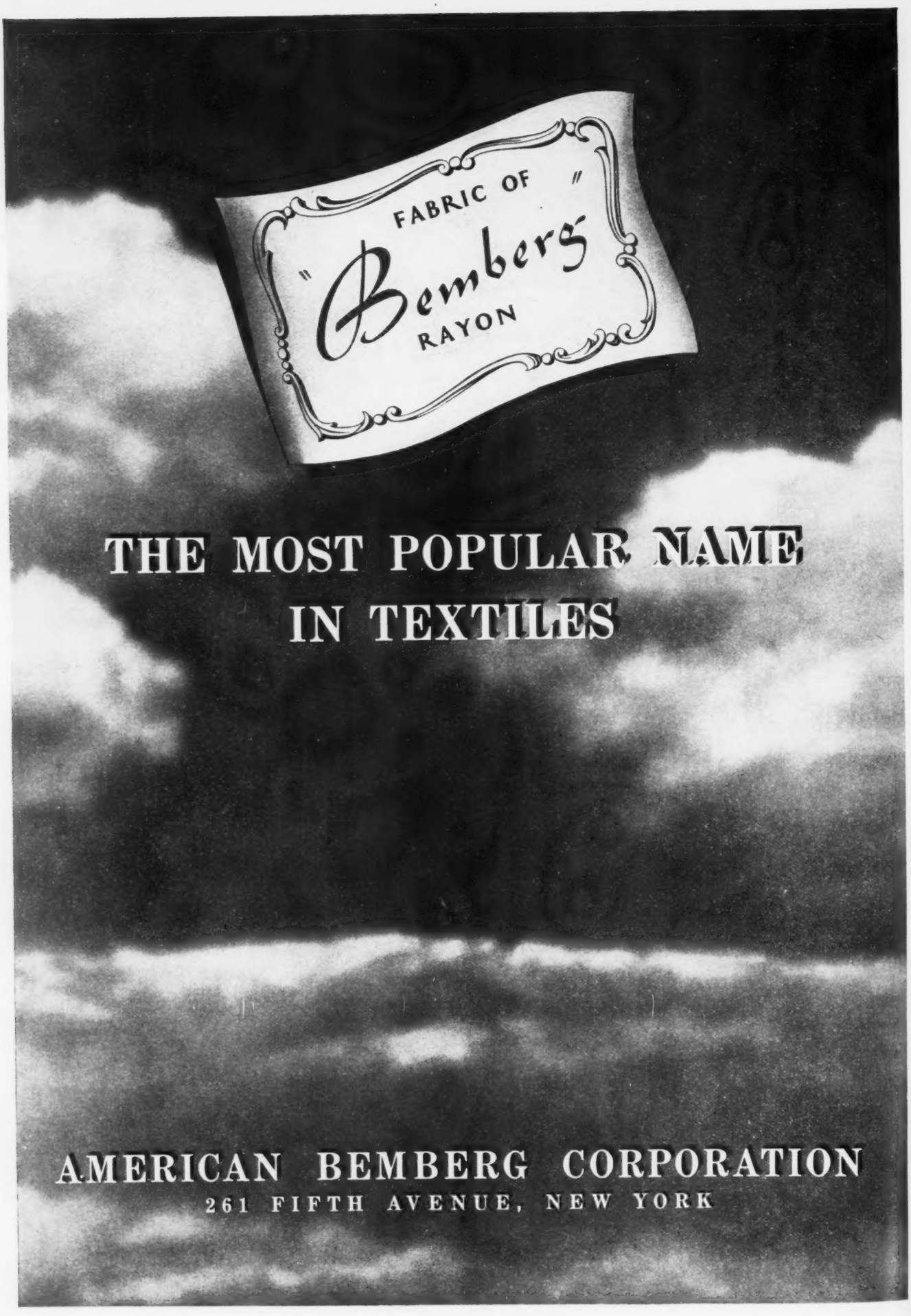
There are many Special features on the Machines that have proven very advantageous to many of the largest Weavers of Rayon in producing quality Warps economically and efficiently in the greatest quantities ever known to the Industry.

We are Specialists and Leaders in the designing and Manufacturing of Complete Warp Preparation Equipment.

Write or wire us your inquiries.

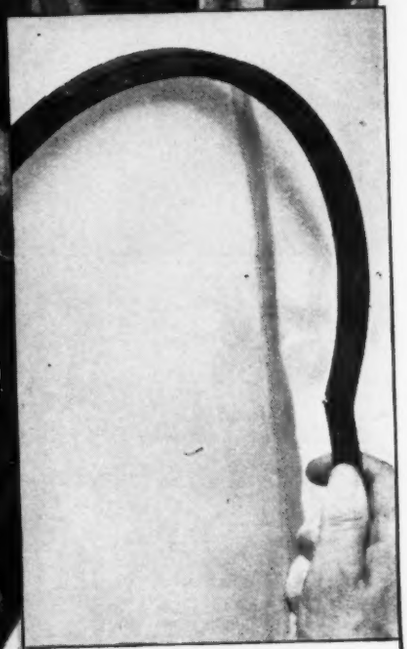
FOUNDRY CO., Gastonia, N. C.

Rayon, Cotton and Other Natural and Synthetic Yarns


FABRIC OF
"Bemberg"
RAYON
THE MOST POPULAR NAME
IN TEXTILES
AMERICAN BEMBERG CORPORATION
261 FIFTH AVENUE, NEW YORK

War on *Wear!*

MANHATTAN'S Suggestions for the Care of V-BELTS



V-Belt destroyed by insufficient tension. High slip created excessive heat which wore and cracked cover.

Rubber has so many essential applications in the war production program that scarcity must be overcome by conservation in every way possible.

Making V-Belts last longer is more than common sense; it is a patriotic contribution to the "winning-power" of the country. Follow these important suggestions:—

1. Do not allow oil, grease or gasoline to come in contact with belt.
2. Avoid exposing belts to sunlight and excessively hot or cold weather.
3. Provide take-up facilities.
4. Don't leave tools or other objects near belt to get caught in drive.
5. Avoid abrasion on nearby objects.
6. Do not force belts onto sheave with instruments of any kind. Slack off on take-up and place belts into grooves.
7. Work belts around grooves until all of the slack is on ONE SIDE OF THE DRIVE, then tighten take-up until belts are fairly snug.
8. Before starting check pulley alignment, check bearings for oil and see that drive is clear and free. Adjust take-up so that when drive is operating at full load and full speed, only a slight bow appears on slack side. Vertical drives, extremely short center drives, and drives carrying pulsating loads must be operated tighter than others.
9. Use sufficient number of correct sized belts to handle maximum load. Be sure sheaves are over accepted minimum diameters.
10. Design new drive to take standard belt and sheave sizes.
11. Belts must not bottom in grooves. Bottoming causes belt-destroying heat from slip.
12. Do not use belt dressing. If belts slip, clean with cloth dampened in gasoline and tighten drive slightly.
13. See that sheave grooves are free from burs and extreme wear. Replace worn sheaves and check alignment periodically.
14. On failure of first belt on a drive, replace entire set with new belts, keeping worn belts as spares for subsequent failures.
15. Store belts uncoiled and hung over forms on rack or wall in a cool, dark place.
16. Consult your MANHATTAN service man. Write factory or your distributor.

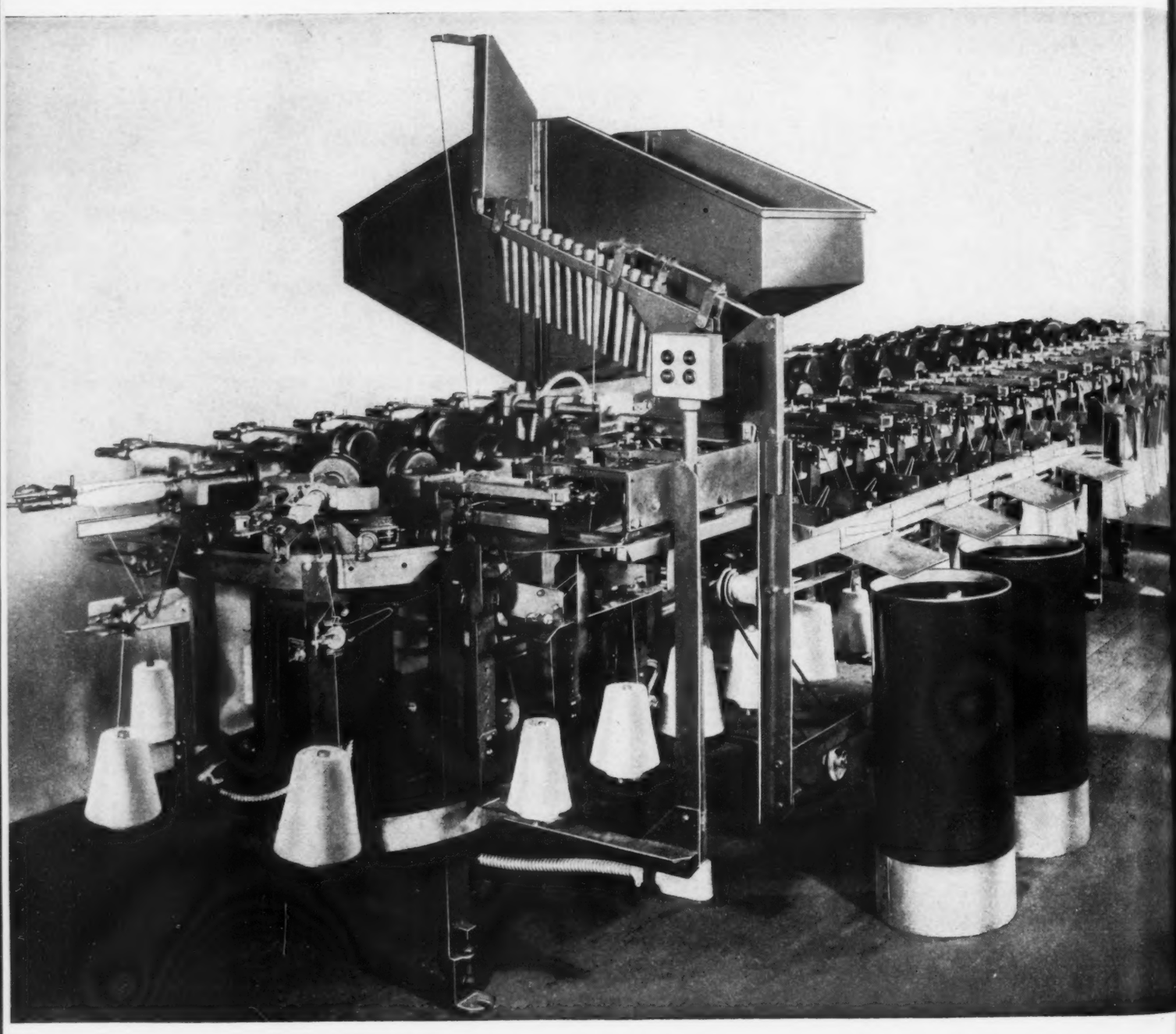
You can get reprints of these suggestions for maintenance men from MANHATTAN field representatives or distributors or by writing direct. This is No. 3 of a series on rubber conservation. Wall cards on care of belts and hose are also available.

KEEP AHEAD WITH MANHATTAN

Conserve your rubber equipment; salvage worn out rubber and buy WAR BONDS—three steps to Victory.

THE MANHATTAN RUBBER MANUFACTURING DIVISION
of RAYBESTOS-MANHATTAN, INC.
EXECUTIVE OFFICES PASSAIC, NEW JERSEY

AUTOMATIC QUILLER



COMPLETE AUTOMATIC OPERATION

Dump Empty Bobbins in Hopper
the Machine Does the Rest

One Automatic Head Will Operate 40 to 120 Spindles

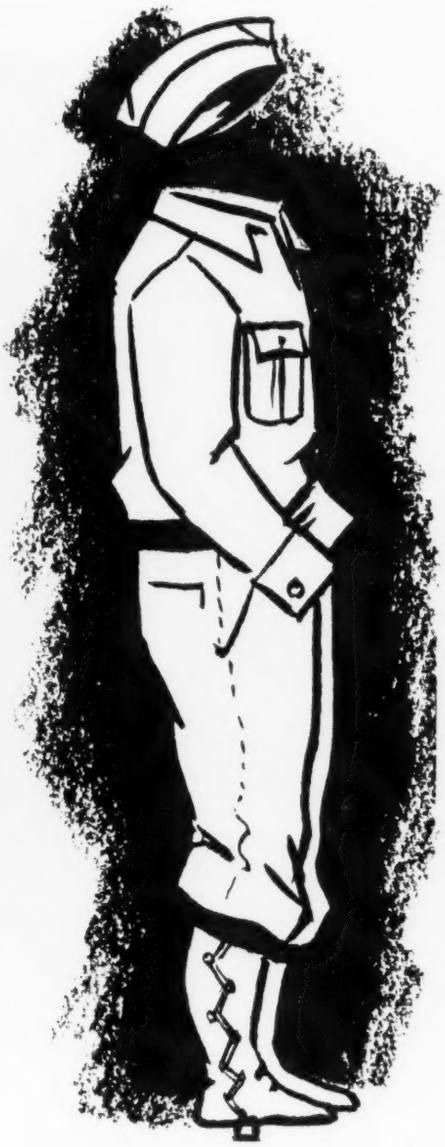
LOWEST INVESTMENT COST ★ LOWEST LABOR COST

ABBOTT MACHINE COMPANY

Wilton, N. H.

Southern Representative, L. S. Ligon, Greenville, S. C.

ALLOW YOUR
LOOM HARNESS EQUIPMENT
TO HELP WIN THE
WAR OF PRODUCTION



Every part of every item making up a

STEEL HEDDLE MFG. CO.

Loom Harness assembly has been designed and engineered—not imitated or just made—but designed

to withstand the high speeds of today's operations—

to run uninterruptedly—

to operate with the minimum of attention—

to eliminate friction and wear.

Every angle or curve—every part has been designed with a definite scientific reason and as a result,

Production is Increased and Defects Eliminated.

Our large Field Staff of Engineers are qualified to work with you in solving any problems or bettering your present conditions, because they know.

STEEL HEDDLE MFG. CO.

Manufacturers of Superior

BRANCH OFFICES ALL OVER THE WORLD

FLAT STEEL HEDDLES—HARNESS FRAMES—ALL TYPES OF LOOM REEDS—TEMPERED DOGWOOD SHUTTLES—LOOM HARNESS ACCESSORIES

2100 W. Allegheny Avenue Philadelphia, Pa.

FIELD ENGINEERS IN EVERY DISTRICT

...FOR Maximum
TYCOL
Engineered
TEXTILE
LUBRICANTS

Production AT ALL POINTS

with maximum protection against wear and machine breakdown

To maintain today's record-breaking production in every phase of textile mill operation, the hard-working machines must be guarded against friction and time-consuming repairs by providing efficient, dependable lubrication. Hundreds of textile plants have found the successful solution to former lubrication problems in Tide Water's engineered Textile Lubricants.

Tycol Textile Oils and Greases have proved their reliability by many years service in wool, cotton, silk and rayon manufacture. From power plant to finishing they promote maximum production and trouble-free machine operation. Tide Water Steam Cylinder Oils and Turbine Oils have improved performance on prime movers throughout industry. Tide Water Green Cast Greases guard bearings against failure because they hold their body — don't break down or thin out quickly. On spindles, looms, and tentering frames Tycol's specialized Textile lubricants have made possible many exceptional records of economy and continuously trouble-free operation.

Call a Tide Water engineer. He'll be glad to study your problem and recommend the proper Tide Water lubricant engineered to meet your particular need and thus assure maximum production at minimum yardage cost. Our informative booklet "Principles of Textile Mill Lubrication" contains many helpful suggestions. Write for full details to Tide Water Associated Oil Company, 17 Battery Place, New York, N. Y.

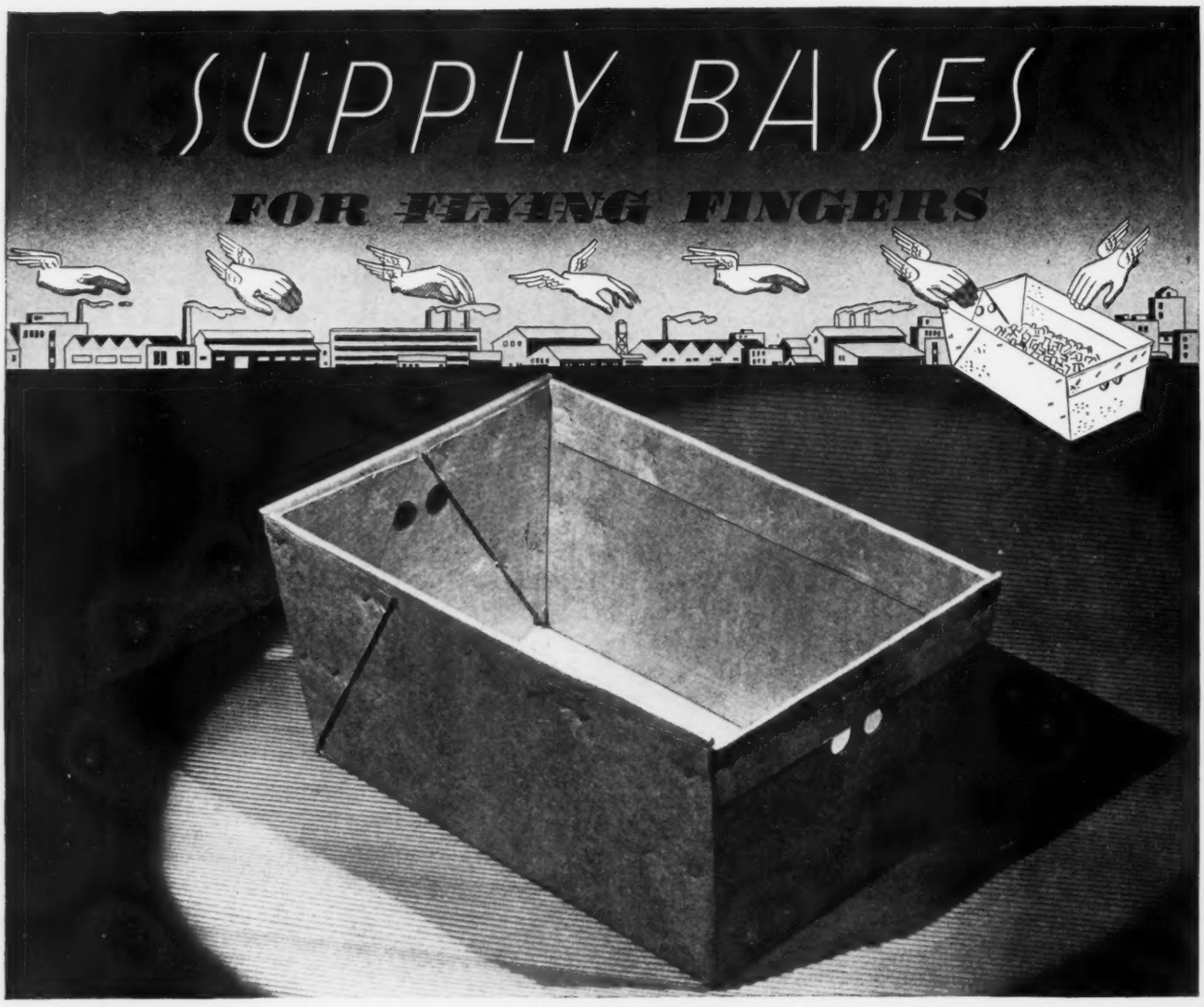
DRUMS! **War needs make it extremely important that all empty drums be returned immediately.**

INDUSTRIAL TYCOL OILS-GREASES

TIDE WATER
ASSOCIATED OIL COMPANY
EASTERN DIVISION
17 BATTERY PLACE, NEW YORK
Regional Offices: Boston, Philadelphia, Pittsburgh, Charlotte, N. C.

OIL IS AMMUNITION
USE IT WISELY !

MAKERS OF THE FAMOUS VEEDOL MOTOR OIL



H & D CORRUGATED TOTE BOXES
CONSERVE CRITICAL MATERIALS

In hundreds of war factories where vast quantities of small parts must be handled swiftly and accurately . . . where women workers make it imperative to check injuries and fatigue . . . where all critical materials must be released for production, H & D corrugated tote boxes are proving to be practical, efficient "speeder-uppers" for war schedules. Here's why:

Economical — constructed of inexpensive available materials, H & D corrugated tote boxes save you money in original costs.

Light Weight—easier to handle, they lessen worker fatigue, help reduce costly errors in handling small parts on production line or in storage.

No Hazards—flying fingers aren't ripped by jagged edges.

Adaptable to Many Jobs—available in many sizes, styles and sturdy shapes for an infinite number of production line, intra-plant haulage and storage operations.

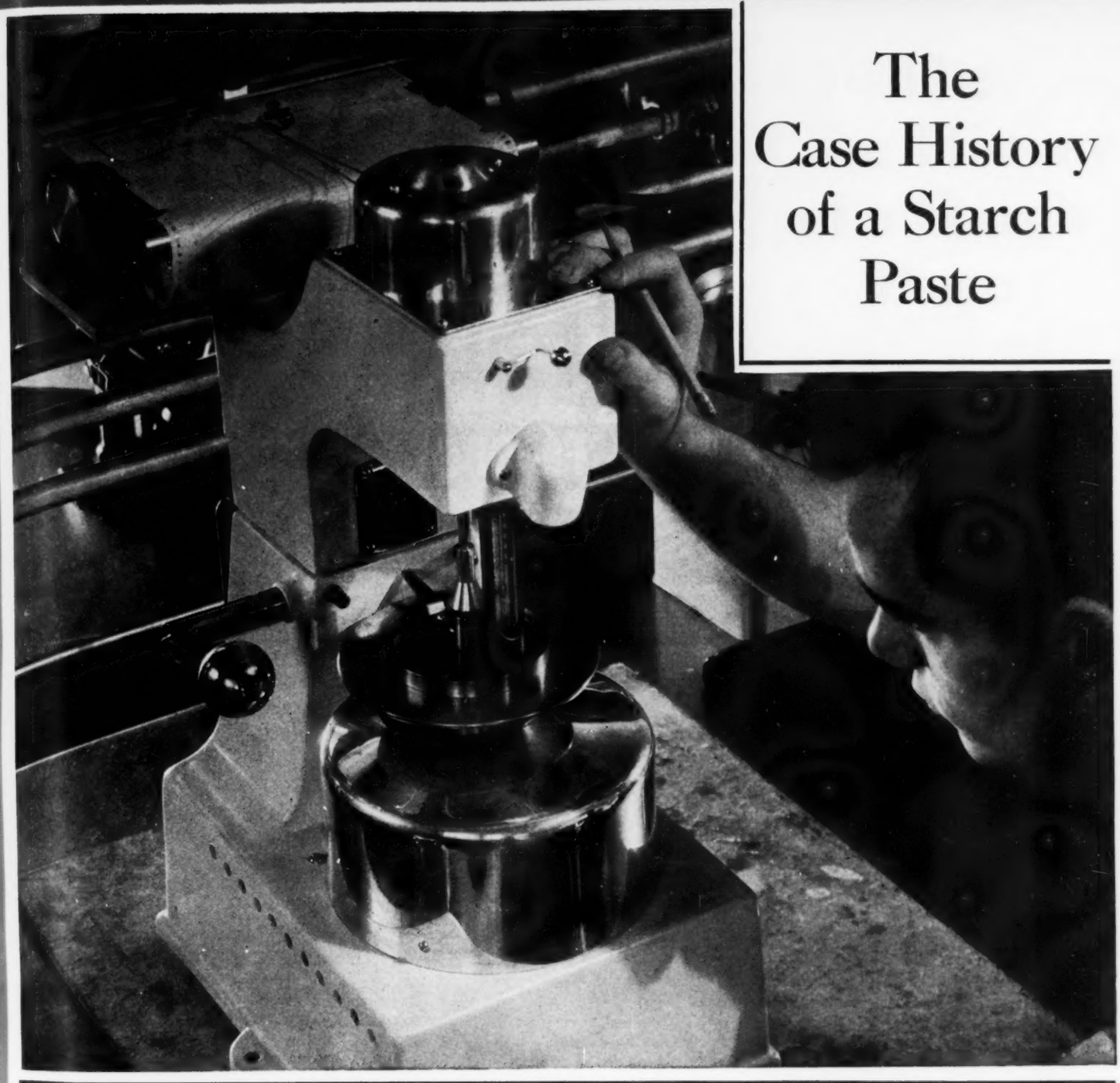
Save Storage Space—delivered set-up and nested, as is the model illustrated . . . or flat for quick, easy set up.

Talk to your Production Line and Stock Room Men. Learn specifically how and where you can save money, materials and minutes with H & D corrugated tote boxes. You'll find the styles your men want in H & D's free bulletin "Tote Boxes." Write for your copy today.

BETTER SEE H&D *Authority on Packaging*

HINDE & DAUCH *4230 DECATUR STREET, SANDUSKY, OHIO*

FACTORIES IN BALTIMORE • BOSTON • BUFFALO • CHICAGO • CLEVELAND • DETROIT • GLOUCESTER, N. J. • HOBOKEN
KANSAS CITY • LENOIR, N. C. • MONTREAL • MUNCIE • RICHMOND • ST. LOUIS • SANDUSKY, OHIO • TORONTO



The Case History of a Starch Paste

AMYLOGRAPH — The Amylograph accurately measures physical changes and the energy involved in the cooking of starches and starch mixes. Viscosity changes for a definitely controlled rate of temperature increase are recorded. An outstanding feature of this Amylograph is a specially-designed thermostat which makes possible the selection of different temperature increase rates. The results of a test are automatically recorded for immediate observation and for a permanent record on a synchronized chart.

NO MARGIN FOR ERROR — The slightest error in laboratory research may be amplified to the difference between success and failure in plant operation. No margin of error in laboratory technique can be tolerated if the results of research are carried into plant procedure.

The Rohm & Haas laboratories appreciate the importance of accurate observation. Laboratory workers are trained to detect the slightest inaccuracy in test results. Automatic testing equipment is available to measure differences which are beyond human measurement.

TRITONS—*Synthetic detergents, emulsifying, wetting, and dispersing agents.*

RHOTEXES—*Synthetic gums for sizing and thickening.*

DEGOMMAS—*Concentrated diastatic and proteolytic enzymes for desizing.*

RHOPLEXES—*Aqueous resin dispersions for finishing and coating fabrics.*

RHONITES—*Modified urea formaldehyde resins for textile finishing.*

PROTOLIN—*Stripping agent for wool stock and piece goods.*

FORMOPON—*Reducing and stripping agent in acid systems.*

LYKOPON—*Reducing and stripping agent in basic systems.*

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA, PA.

Manufacturers of Leather and Textile Specialties and Finishes . . Enzymes . . Crystal-Clear Acrylic Plastics . . Synthetic Insecticides . . Fungicides . . and other Industrial Chemicals

THE WAR CAN'T WAIT..

Donald M. Nelson says to the Textile Industry:

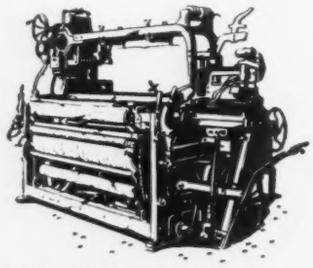
"America's war production must not be slowed down by the present shortages of scrap materials—iron, steel, rubber, tin, copper, brass, lead, zinc, burlap, rags, and rope. We are looking to the Textile Industry for great help in relieving this situation. Not only in fibres and fabrics, but in condemning and junking obsolete looms, buildings, old machine parts and other scrap. We urge you to begin *at once* a drive to gather the scrap in your mills!"

U.S. NEEDS ALL SCRAP..TODAY!

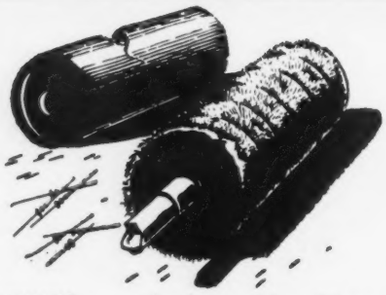
SELL YOUR SCRAP TO SHORTEN THE WAR!

HERE'S WHAT TO LOOK FOR

BALING WIRE . . . Start your search with this valuable scrap. One textile mill is salvaging 5 tons of baling wire alone each month—enough to provide scrap steel for a 3-inch antiaircraft gun or 200 .50-caliber machine guns!

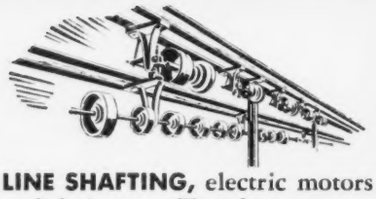


LOOM PARTS . . . obsolete and old looms, broken picker shoes, and other parts. Go through your plant with "Scrap" in your mind —you'll be amazed at the harvest. Don't think of the original cost of the scrap, but of the part it can play in speeding Victory.

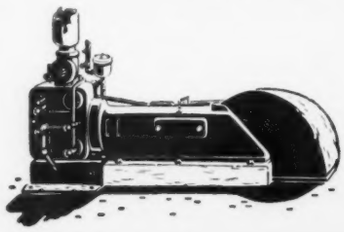


CAMS . . . and other steel and iron parts from bale breakers, cards, spinning frames, and other equipment. Remember, half of every tank, ship, and gun is made of scrap metal. A single broken old gear may yield enough scrap steel for a 500-lb. aerial bomb.

RUBBER ROLLS AND APRONS . . . old tires from plant vehicles . . . scraps of yarns and fabrics. The Japs hold 97% of the world's rubber supply—we need scrap rubber to see us through. One old truck tire yields scrap enough for 20 pairs of paratrooper boots.



LINE SHAFTING, electric motors and their parts. Tear down unusable shafting—wouldn't you rather see those discarded pulleys in there fighting as part of a destroyer? Motors supply scarce copper, zinc, and tin. Sixty feet of electric cord furnish the copper scrap for 1000 37-mm. antiaircraft explosives.



STEAM ENGINES AND TURBINES . . . obsolete units, parts of worn-out or broken units—pistons, valves, pumps, bearings, turbine blades, boiler and condenser tubes, grates. Rout them out of the back lot—send them on their way to the front. Get your plant behind the Scrap campaign today!

HERE'S WHAT TO DO . . . Appoint one man as Salvage Manager for your organization. Give him authority to *act*—to condemn old equipment, to move material, to collect scrap of all kinds. Have him separate all scrap by type. Then move it promptly through your regular scrap dealers. Don't wait—start rounding up scrap *now*—and keep it moving until the war is won!

THROW YOUR SCRAP INTO THE FIGHT!

This message approved by Conservation Division

WAR PRODUCTION BOARD

This advertisement paid for by the American Industries Salvage Committee (representing and with funds provided by groups of leading industrial concerns).

All wires seat square, flat and firmly into the Foundation.

All wires are parallel.

All wires are even in length.

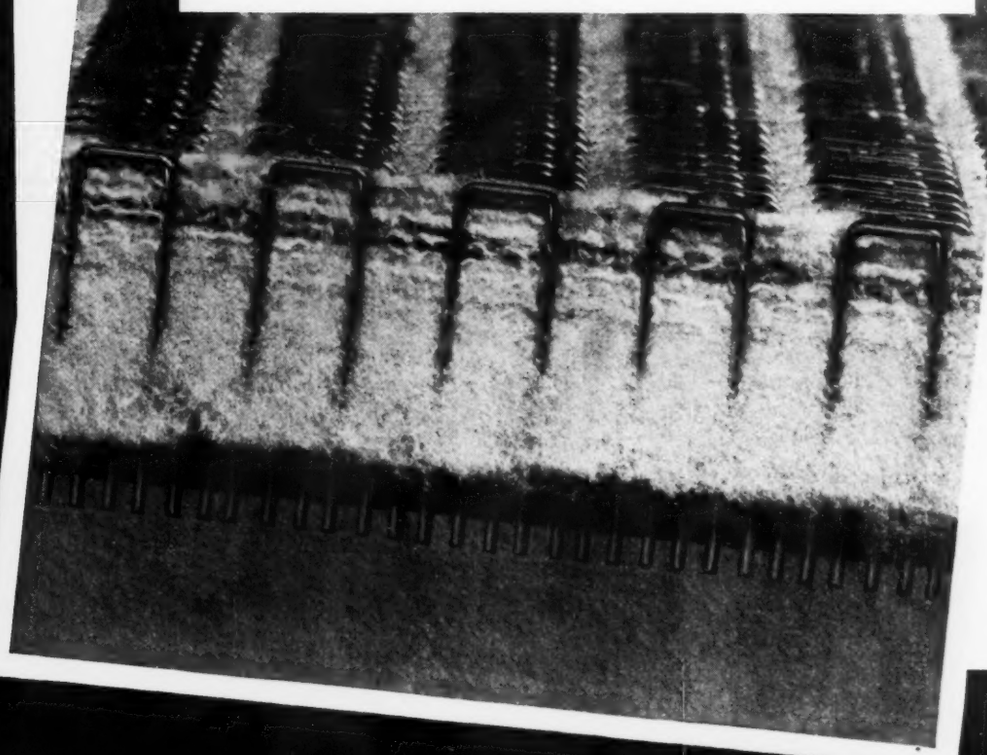
All wires are spaced uniformly.

Microphotograph is 5 times actual size.

For high speed, heavy duty carding for war production you need the uniform quality of

TUFFER CARD CLOTHING

Notice how uniformly parallel the wires are placed . . . the evenness of the points . . . the flat square crowns. The secret lies in our patented Tufferizing Process—developed and owned exclusively by Howard Bros. Try Tuffer the next time you order.



TRADE MARK
TUFFER
REG. U.S. PAT. OFF.
CARD CLOTHING

HOWARD BROS. MFG. CO.

HOME OFFICE AND FACTORY: WORCESTER, MASS.

Southern Plants: Atlanta, Ga., Gastonia, N. C. *Branch Offices:* Philadelphia, Dallas
Canadian Agents: Colwool Accessories, Ltd., Toronto 2, Canada

Products: Card Clothing for Woolen, Worsted, Cotton, Asbestos, and Silk Cards—Napper Clothing, Brush Clothing, Strickles, Emery Fillets. Top Flats Recovered and extra sets loaned at all plants—Lickerins and Garnett Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant—Midgley Patented Hand Stripping Cards, Howard's Special Hand Stripping Cards and Inserted-Eye and Regular Wire Heddles.

Stamina APLENTY to withstand 3 shifts— daily operation

No premature aging, though operating continuously—under heavier loads—at higher speeds! . . . WOOD'S equipment for power transmission is engineered with a substantial *extra margin* of strength and endurance. It's the kind of solid quality that's apparent at a glance. And, it's the kind of careful workmanship that gives you highest drive efficiencies—steadily—throughout the long life of the drive. Consult the nearest WOOD'S distributor; he can help you keep vital drives clear of power leakage, waste and breakdowns.

T. B. Wood's

SONS COMPA
. . . CHAMBERSBURG, P
EVERYTHING IN POWER TRANSMISSI
Bearings — Collars — Clutches — Couplings
Contactors — Hangers — Pillow Blocks —
leys — V-Belt Sheaves and Complete Dri

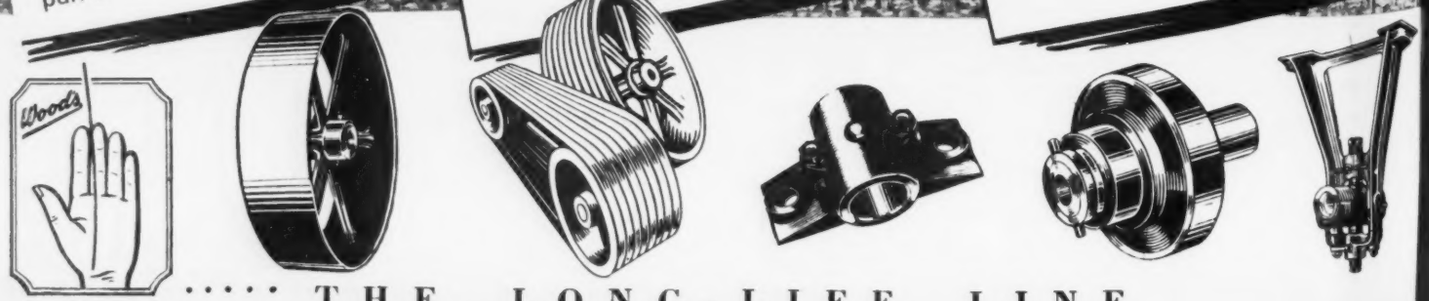
THE BULLETIN BOARD

Machinery builders who are now making their own pulleys, pillow blocks, sheaves, bearings and other similar parts can release men and machines for other vital production by letting Wood's handle this part of the problem.

WOOD'S PLANNED POWER TRANSMISSION REDUCES INITIAL INVESTMENT

because of the use of fewer, larger motors which are less costly per horsepower to install and operate than are smaller ones.

Invest for VICTORY
Buy
U.S. WAR BONDS



. . . . . THE LONG-LIFE LINE

ELECTROLYTIC

HYDROGEN

PEROXIDE

BECCO

Keep in touch with

BECCO

HYDROGEN PEROXIDE TECHNICAL SERVICE

for accurate, reliable, and comprehensive information on Peroxide Bleaching of all fibres . . . by all Methods and Procedures including all systems of Continuous Bleaching.

BECCO SALES CORPORATION

BUFFALO, N. Y.

Branch Offices in Boston, New York City, Philadelphia, Chicago and Charlotte

Considering COLD Scouring?

This LOW TITER SOAP Takes It In STRIDE

Cold scouring is nothing new or strange to many processors of woolens and worsteds. But the likelihood of fuel shortages in the months to come is focussing unusual attention on this scouring procedure.

Present users of Olate already know that scouring at low temperatures presents no real problem to this neutral, low titer soap. But if you have never used Olate—and if you're considering cold scouring—here are some Olate facts which should interest you.

OLATE SOLUTIONS ARE UNUSUALLY FLUID

Quick, thorough, even penetration of the fabric is essential in cold scouring, as it is in fulling. And that calls for a *fluid* soap solution—one which will *stay fluid at temperatures as low as 50° F.*

Much of Olate's success in cold scouring and fulling can be credited to its exceptionally low titer which assures the fluidity of its solutions at low temperatures—even in high concentrations. *Solutions containing as much as 12 ounces of Olate per gallon stay fluid enough at ordinary temperatures to be poured or piped readily.*

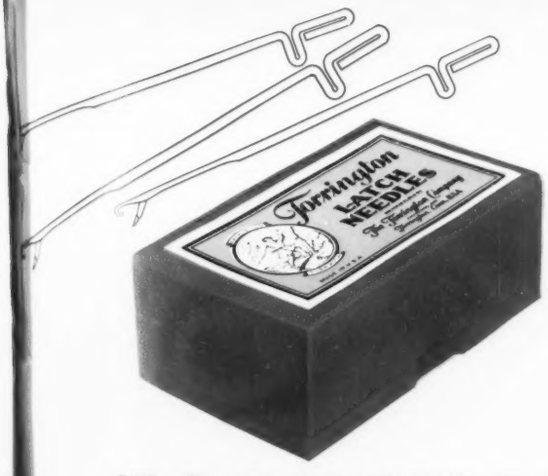
OLATE SOLUTIONS INCORPORATE SOLVENTS READILY

It's easy to incorporate most solvents in your Olate scouring solution. It's easy to rinse Olate from scoured fabrics—an important factor of safety in safeguarding woolens and worsteds against objectionable odors resulting from unrinsed soap left in the fibers.

If you're now using the cold scouring process—or if you're considering it—try Olate. You'll find Olate dependable "processing insurance" from every angle—economy, efficiency and the saleability of your finished goods.

Procter & Gamble

Olate *safe for all wet finishing operations*



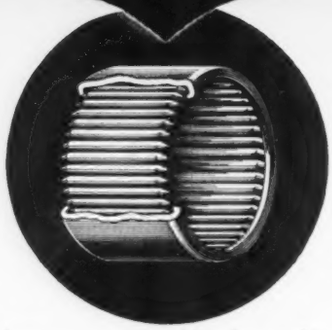
Today, as customers ask not only "Is it good looking?" but "Will it wear?", the knitting in a sweater demands more careful scrutiny than ever. That the industry recognizes this is evidenced by the way knitters are relying upon the *machine-made*, machine-controlled quality of Torrington Needles. Their finer finish, truer temper, and more accurate dimensions mean high quality knitting at an economical cost. There is a Torrington Needle for your every type of knitting.

TORRINGTON latch NEEDLES

The Torrington Company, Torrington, Conn., U.S.A., Established 1866

Branches: New York • Philadelphia • Chicago • Greensboro, N. C. • Boston • St. Louis • Los Angeles • Toronto, Canada

THE "*ROUTINE PART*" IN WAR MATERIEL



INSPECTION keeps a manufacturer "on his metal" these days. Changes come thick and fast in war production. That tank rolling off the assembly line may be a redesign . . . the last shipment of machine parts may have been supplied by a newcomer to the Victory program. And so it goes.

But there's a routine part in most war materiel — the Torrington Needle Bearing. As new-type equipment comes out of production for approval, Chief Inspectors are increasingly aware of the Needle Bearing's presence in the finished assembly. Long since "changed over" to production-for-war, this unusual bearing is meeting every new requirement as specifications change.

Its small size, for example, is conserving space and critical materials. Its remarkable ease of installation is cutting assembly time . . . its simplified design is eliminating extra parts and assembly steps . . . its low coefficient of friction assuring smooth performance . . . high capacity and efficient lubrication reducing the need for replacement or maintenance attention — all vital wartime needs — increasingly urgent.

In its adaptability to the latest-type fighting machines, as well as the equipment that assembles them, the Needle Bearing is again demonstrating its unique advantages. And in applications where these advantages mean more today than ever.

FOR INFORMATION *concerning capacities and sizes, send for Catalog No. 116. Or consult a Torrington engineer. He is an expert in adapting the Needle Bearing's advantages to specific problems.*

"LET'S GO! U.S.A." "KEEP 'EM FLYING"

THE TORRINGTON COMPANY

TORRINGTON, CONN., U. S. A. • *Est. 1866*

Makers of Needle and Ball Bearings

New York · Boston · Philadelphia · Detroit
Cleveland · Seattle · Chicago · Los Angeles
San Francisco · Toronto · London, England

TORRINGTON NEEDLE BEARING

Every feature fills a wartime need

The Right Start

A PRODUCT FOR EACH STEP IN RAYON MANUFACTURE

RAMOL W-1345—To prevent milky yarn in bright lustre viscose rayon.

•

LUMPOMIN Q—A quartenary ammonium compound for emulsification of mineral oil.

•

RAMOL W-1293—An emulsifier added in shredders.

•

RAMOL W-945 C—Non-oxidizing oil at 150°C; no development of acidity at 150°C.

•

RAMOL W-1407 DR—A knitting finish oil to be used as is or in emulsion.

•

RAMOL W-1395 DP—A base oil for mineral emulsions.

•

RAMOL W-530—A product for rayon throwing, used with gelatin or gelatin substitute, for weaving or throwing.

•

MONOPOLE OIL DP—Used for skein finishing.

•

AIR CONDITIONING ASSISTANT—Anion active, eliminates dust and soot by precipitation.

Special information on request.

• Steadfast cooperation between our research staff and our Customer Sales Service has enabled us to keep pace with the war demands of rayon producers and rayon users.

We invite you to make use of our trained technical experts to assist in solving any problems associated with rayon.

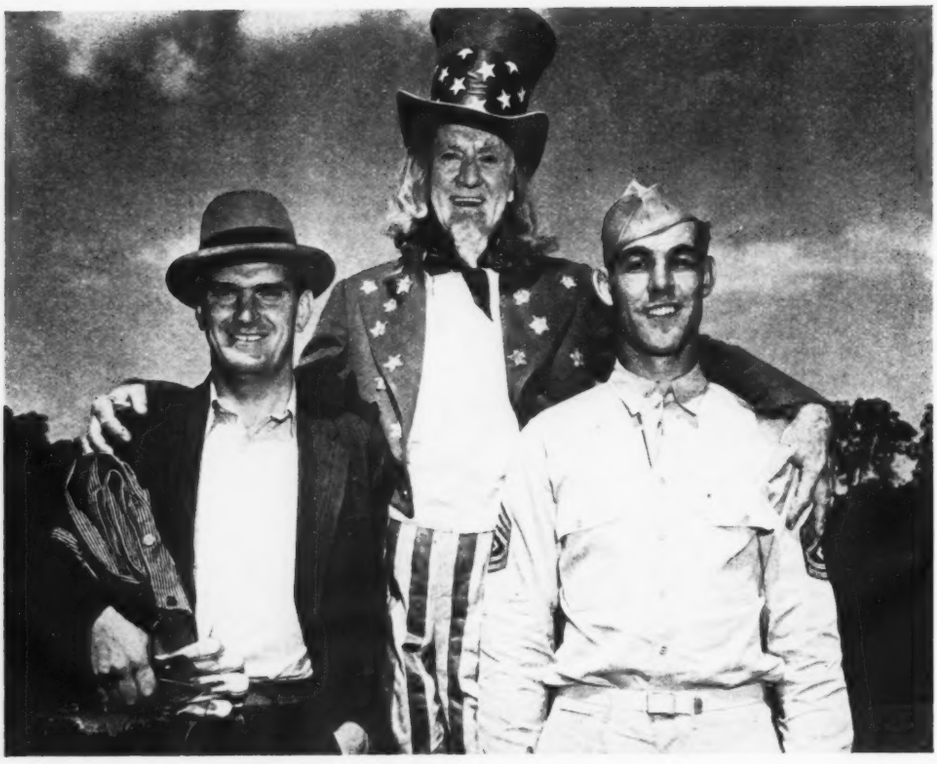
WOLF BRAND PRODUCTS

JACQUES WOLF & CO.

Chemicals **PASSAIC, N. J.**

WAREHOUSES: Providence, R. I., Philadelphia, Pa., Utica, N. Y., Chicago, Ill., Greenville, S. C., Chattanooga, Tenn., Knoxville, Tenn., Charlotte, N. C., Milwaukee, Wisc., Columbus, Ga.

FOR BOTH MILITARY AND CIVILIAN USE

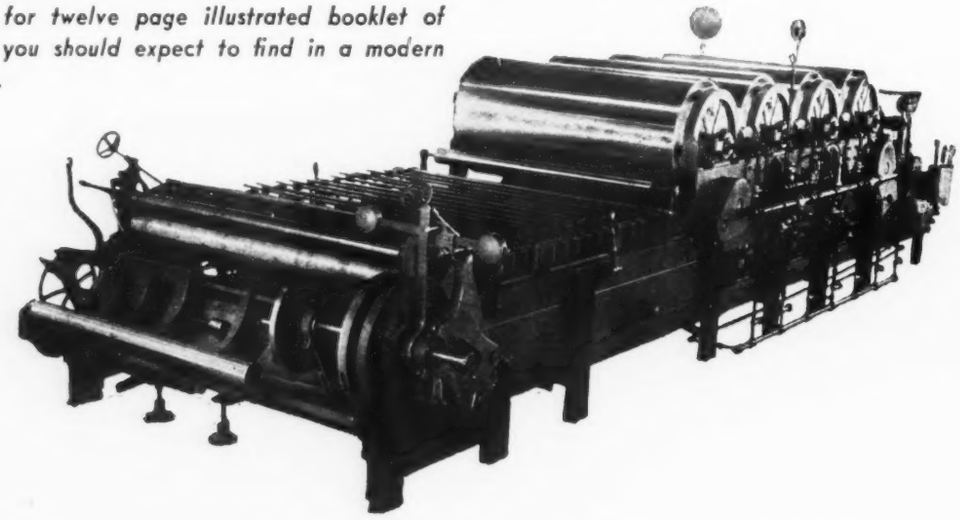


Millions of Yards of Rayon and Nylon Warps are Sized on

JOHNSON RAYON SLASHERS

Built for fast quality production, the Johnson 7 cylinder sizer has been made standard by leading mills everywhere. Automatic indication and fingertip control of stretch are two of its modern additions to economy, speed and quality of production.

Write for twelve page illustrated booklet of things you should expect to find in a modern slasher.



CHARLES B. JOHNSON MACHINE WORKS

PATERSON NEW JERSEY

ANDREW K. HENRY

★

RAYON TOPMAKER
VISCOSE
ACETATE
RAYON NOILS

★

158 SUMMER STREET
BOSTON, MASS.

GULFGEM

is the only ALCHLOR PROCESSED

Spindle Oil

Why this fact is important to you:

Now that your frames must run continuously for longer periods of time in order to meet production demands, more than ever you need the highest quality spindle lubricating oil you can obtain—an oil which provides an extra margin of protection to this vital equipment.

And that oil is Gulfgem, for Gulfgem Oil *alone* is refined by Gulf's own Alchlor Process, the most effective method yet known for removing unstable hydrocarbons and gum-forming constituents from oils. Thus Gulfgem Oil provides a tough and stable film which insures minimum wear, minimum ends down, minimum power consumption and maximum intervals between spindle base cleaning periods. Gulfgem Oil is the world's finest oil for spindle lubrication!

We suggest that you talk with the Gulf engineer in your vicinity about this remarkable spindle lubricating oil at your first opportunity. He will be pleased to give you complete details—without obligation.

OIL IS AMMUNITION . . . USE IT WISELY

GULF INDUSTRIAL LUBRICATION

GULF OIL CORPORATION · GULF REFINING COMPANY

GULF BUILDING, PITTSBURGH, PA.

LET'S GET DOWN TO DETAILS

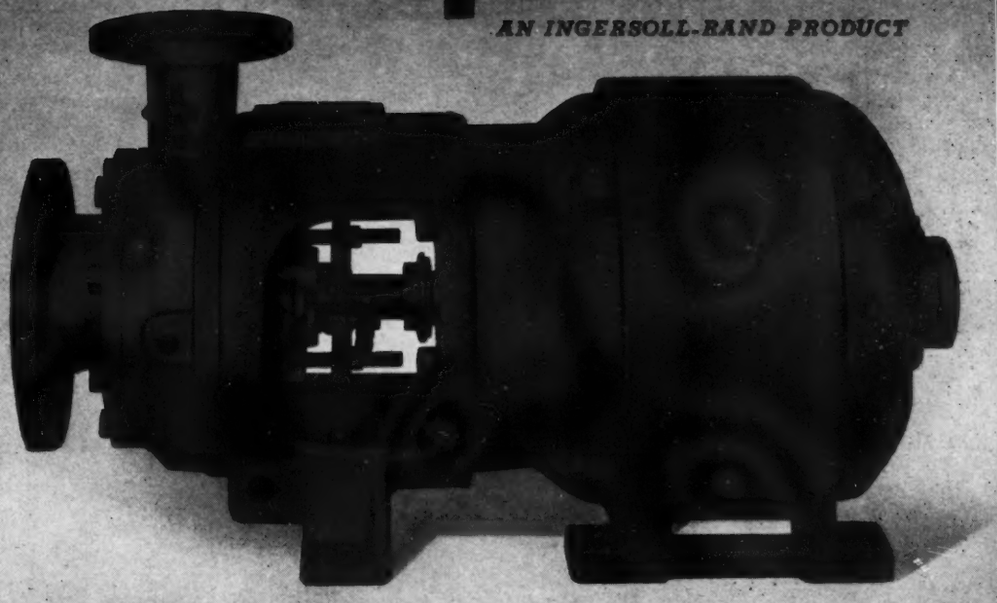
Design and construction details in a pump are of the utmost importance. Upon them depend pump efficiency, length of service, freedom from trouble and ease of maintenance.

Careful attention to details has in a large measure been responsible for the outstanding success of the Ingersoll-Rand Motorpump. Some of these details are show below. Let our engineers discuss the Motorpump with you. Capacities 5 to 1800 gpm; heads to 500 feet.

THE CAMERON

MOTORPUMP

AN INGERSOLL-RAND PRODUCT



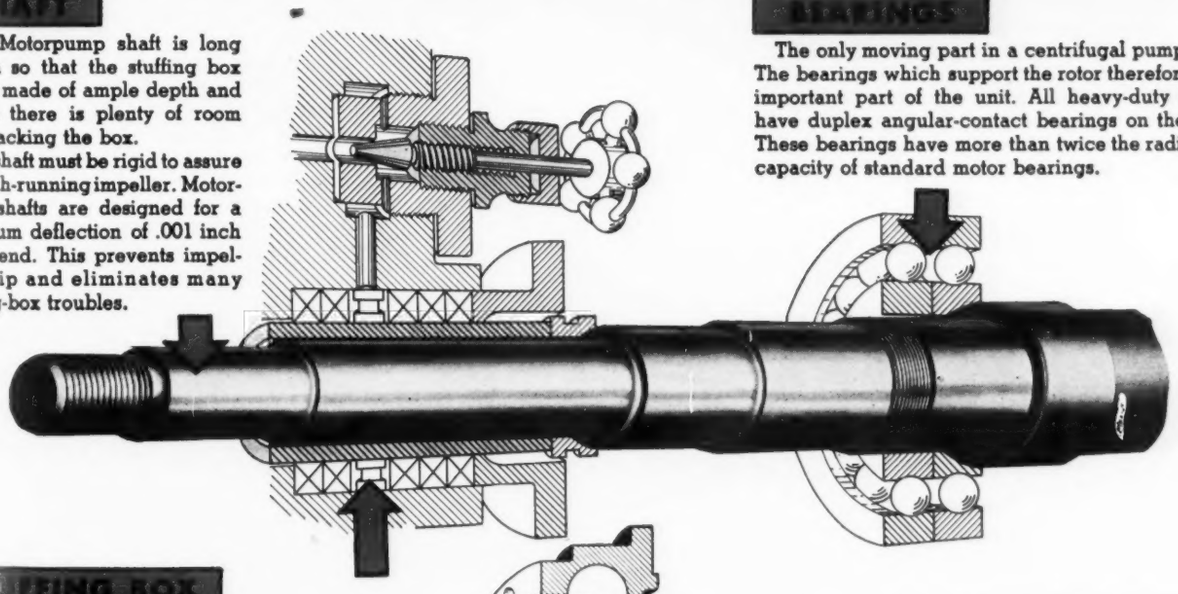
SHAFT

The Motorpump shaft is long enough so that the stuffing box can be made of ample depth and so that there is plenty of room for repacking the box.

The shaft must be rigid to assure a smooth-running impeller. Motorpump shafts are designed for a maximum deflection of .001 inch at the end. This prevents impeller whip and eliminates many stuffing-box troubles.

BEARINGS

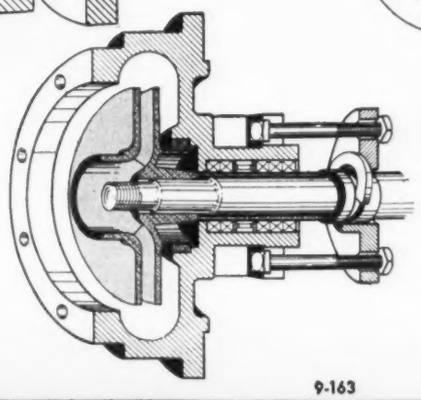
The only moving part in a centrifugal pump is the rotor. The bearings which support the rotor therefore, are a most important part of the unit. All heavy-duty Motorpumps have duplex angular-contact bearings on the pump end. These bearings have more than twice the radial and thrust capacity of standard motor bearings.



STUFFING BOX

The stuffing box on the Motorpump holds sufficient packing to permit accurate control of the sealing action. In addition a sealing gland is placed in the box, except for liquids requiring special packing. When the pump handles water the liquid for this gland is taken from the casing. Its flow is controlled by a needle valve. External seals are provided when handling liquids which can not be used in the sealing gland.

There is ample room to repack the stuffing box, and a convenient split gland is provided.



IMPELLER PULLER

In order to facilitate the removal of the impeller, and shaft sleeve, a patented impeller puller is incorporated on heavy-duty Motorpumps.

This consists of a slotted sleeve on the shaft in which a yoke may be inserted. When the suction nozzle and impeller nut are removed, the impeller can easily be pushed off by tightening the stuffing-box gland against this yoke.

9-163

Atlanta, Birmingham, Boston, Buffalo, Butte, Chicago, Cincinnati, Cleveland, Dallas, Denver, Detroit, Duluth, El Paso, Hartford, Houston, Kansas City, Knoxville, Los Angeles, Newark, New Orleans, New York, Philadelphia, Picher, Pittsburgh, Pottsville, Salt Lake City, San Francisco, Scranton, Seattle, St. Louis, Tulsa, Washington

Ingersoll-Rand

11 BROADWAY, NEW YORK CITY

Cameron Pump Division

Branches or Distributors in other Principal cities the world over.

Buenos Aires, Calcutta, Caracas, Havana, Johannesburg, Lima, Lisbon, London, Lyons, Madrid, Melbourne, Mexico, Montreal, Rio de Janeiro

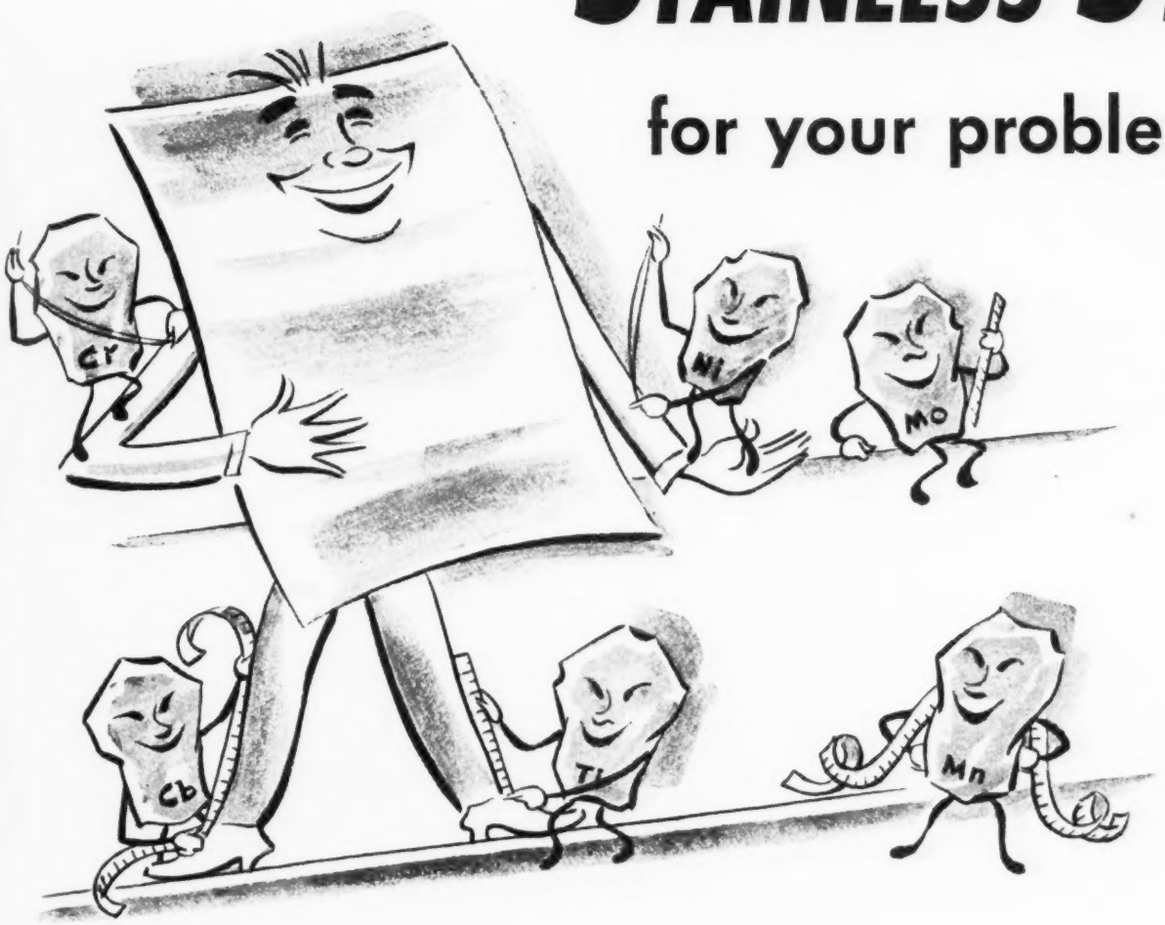
CLOSE-UP of a shirt going to war!

Here's a moth's eye view of a piece of worsted shirting, made to army specifications, enlarged 15 times to show construction ★ This magnified photo shows how necessary it is to size the single count yarn properly for the weaving operation ★ Houghton contributes to the rapid and uniform processing of uniform cloth by supplying worsted size compounds which (1) increase warp strength, (2) assure maximum loom production (3) reduce "seconds" by producing a fabric of uniform texture ★ To learn how leading mills are using Houghto-Size and Worsted Size to their distinct advantage, write our Textile Department, or ask the Houghton Man.

HOUGHTON'S *Textile Processing* OILS

E. F. HOUGHTON & CO.
Charlotte PHILADELPHIA Chicago

Are you using the best STAINLESS STEEL for your problem?



Chromium and Nickel, as well as such modifying elements as Manganese, Molybdenum, Columbium, and Titanium . . . all critical materials . . . are used in the production of different kinds of stainless steel. Each contributes particular properties to the steel . . .

Chromium makes stainless steel "stainless" for it gives steel resistance to corrosion and oxidation, as well as to heat and abrasion.

When present in large enough quantities, Nickel changes the structure of chromium steels and improves their fabricating properties. It also increases the resistance of stainless steels to corrosion and heat.

Manganese acts like Nickel. Furthermore it improves the hot ductility of the steel, and increases its resistance to corrosion and impact.

Molybdenum increases the resistance to pit-type corrosion.

Columbium and Titanium make stainless steel insensitive to a type of corrosion resulting from exposure to high temperatures such as in welding.

Electro Metallurgical Company engineers have more than 35 years' practical experience in the selection and use of stainless and other alloy steels. They can give helpful advice on the best analyses of steel for your particular problem.

Using the steel best suited to your problem will save you time and money and will help conserve vital materials. When you have a specific problem in the selection or use of stainless and other alloy steels, consult us. There is no obligation.

ELECTRO METALLURGICAL COMPANY

Unit of Union Carbide and Carbon Corporation

30 East 42nd Street UCC New York, N. Y.

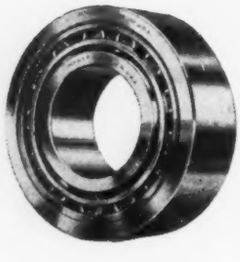
In Canada: Electro Metallurgical Company of Canada, Limited, Welland, Ontario

Electromet

Trade Mark

Ferro-Alloys & Metals

YOUR ROLLER BEARINGS HAVE A BIG JOB TO DO. DON'T NEGLECT THEM! KEEP THEM CLEAN . . . WELL LUBRICATED . . . PROPERLY ALIGNED! THIS IS NO TIME TO TAKE CHANCES!



WHILE anti-friction bearings keep factory wheels turning, transportation rolling and farm machinery producing, they have the added wartime job of keeping armies on the go, aircraft aloft and battle fleets afloat.

Vital to the arming, transporting and feeding of our forces . . . with Victory demanding round the clock operation, day after day . . . even sturdy bearings like Hyatts, *which run for long periods without attention under normal conditions,* need a little care today.

Be sure bearings are properly sealed and lubricated. Be sure bearings fit snugly...for looseness might cause excessive wear and misalignment. Keep bearings free from grit and dirt both in assembly and in operation.

With Hyatts assigned to two important jobs: beating friction and helping to beat the Axis...don't neglect them! Our Engineering Department will be glad to help you on any bearing application or maintenance problem.

Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

THIS IS THE 50TH YEAR OF HYATT ROLLER BEARINGS

U. S. N
awarded
Works
product

v "E" **Insignia** (twice size)
ployees of Textile Machine
25, 1941, for outstanding
of Naval Ordnance.

Sheer Fantasy . . . Every woman knows that the enchanting loveliness of her stockings is in the quality of the fabric. Every hosiery manufacturer knows that the first step toward superior knitting results is careful selection of the needles. Keep your knitting machines young and effective with TMW Needles . . . *And remember: Regular Reneedling Pays! Let us put your needle bars in shape for faster, more accurate, more profitable knitting.*

TEXTILE MACHINE WORKS • READING, PA.

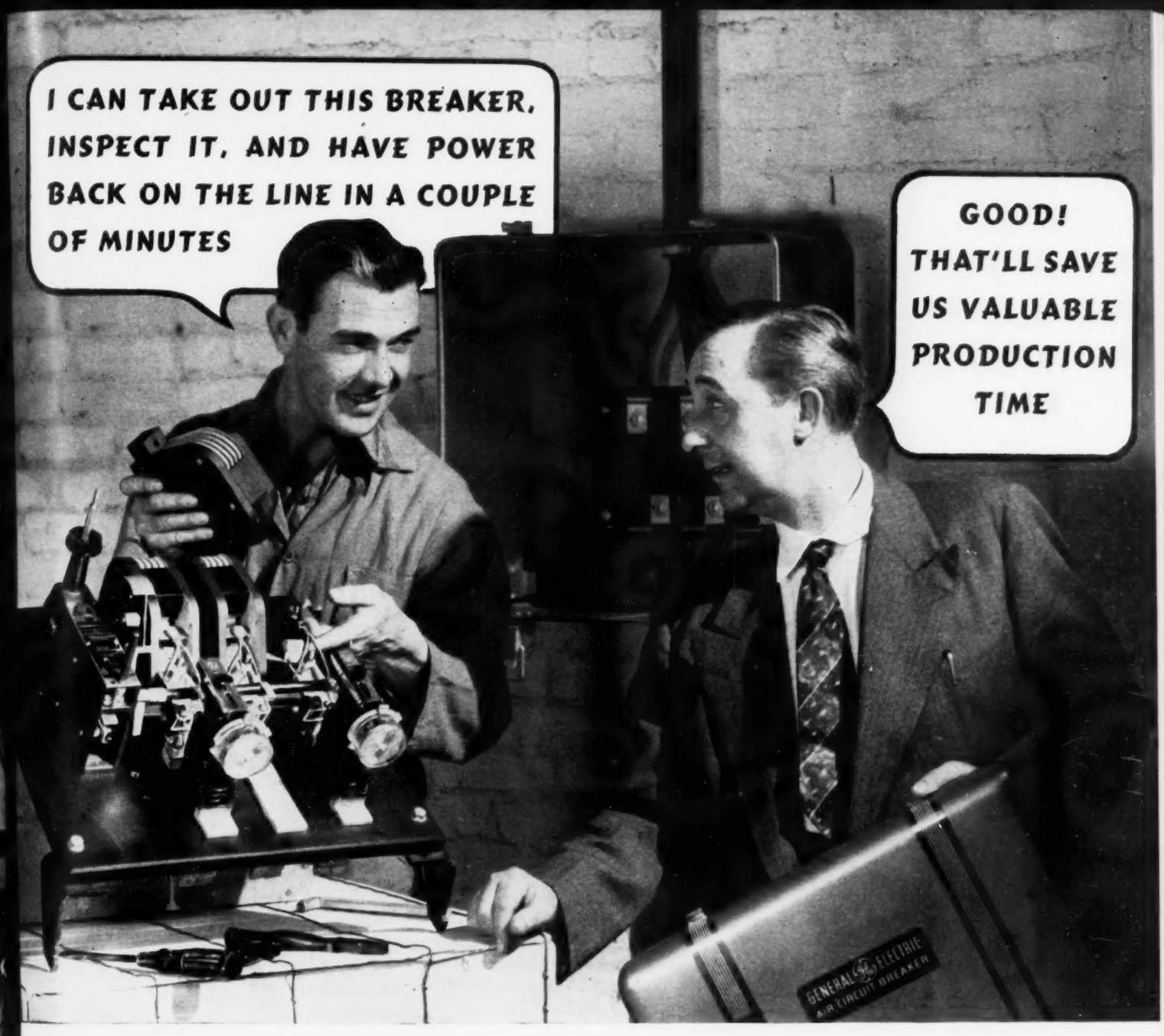
U. S. Navy "E"—awarded Textile Machine Works July 25, 1941, for outstanding production of Naval Ordnance. The white star is evidence of continuing superior performance.

"If every man mend one, all shall be mended."

OLD PROVERB

Until the Victory is Won! . . . The men and experience back of Reading Full-Fashioned Knitting Machines are enlisted for the duration. We *cannot* give you new machines — but we *will* do the next best thing: Our engineers will do their utmost to help you keep your present equipment at the point of highest efficiency. *Let us tell you about our complete reconditioning service and what it means in terms of better fabrics and bigger profits.*

TEXTILE MACHINE WORKS • READING, PA.


I CAN TAKE OUT THIS BREAKER, INSPECT IT, AND HAVE POWER BACK ON THE LINE IN A COUPLE OF MINUTES
GOOD! THAT'LL SAVE US VALUABLE PRODUCTION TIME
GENERAL ELECTRIC
AIR CIRCUIT BREAKER

Here's Why This New Removable Breaker Is So Easy to Inspect

JUST loosen two screwbolts—and the complete breaker can be pivoted outward and lifted free, ready for inspection. It is just as easily replaced.

Simple? Yes—simple and easy to a degree which invites regular inspection. This discourages long-time neglect and avoids shutdowns, which are more costly today than ever before.

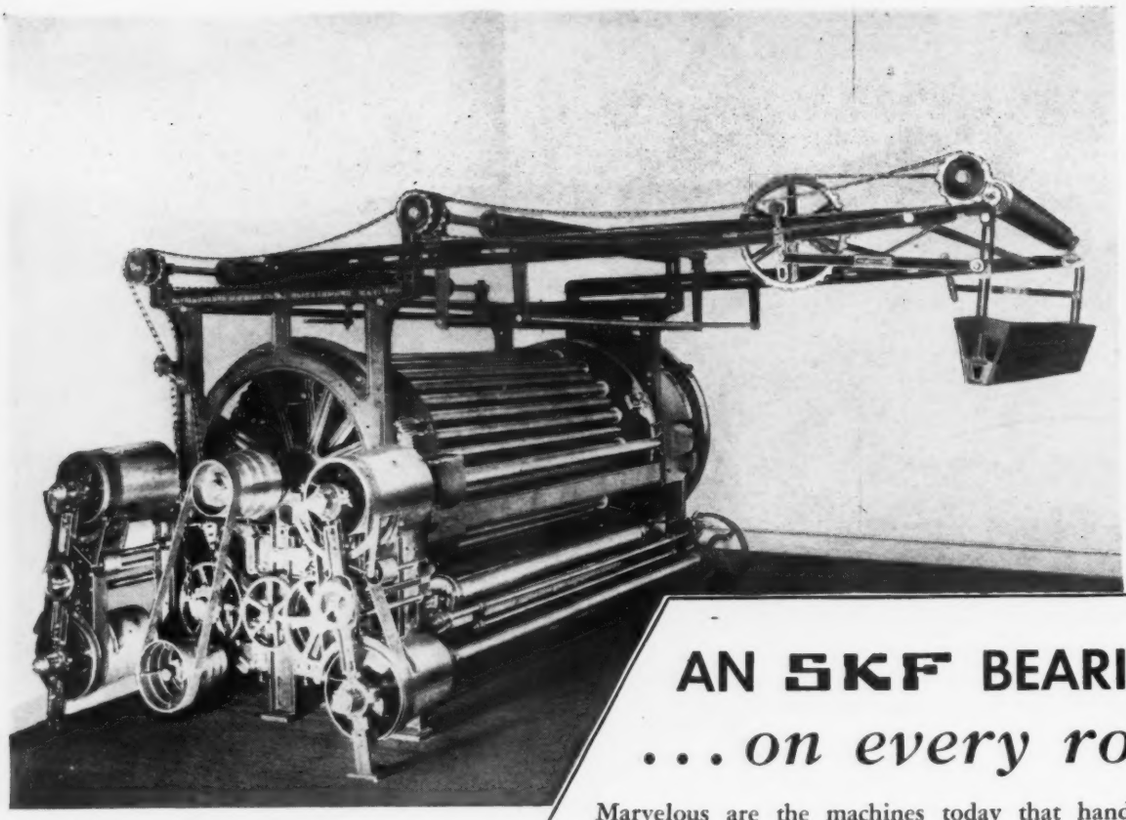
Plant engineers call it the 3-minute breaker. With it, you can reestablish service after temporary faults in less than one minute; inspect the breaker in safety, away from live parts—in less than two minutes; and where load conditions have changed, you can interchange breaker units in less than three minutes.

Give your production, equipment, and personnel complete protection. Install these breakers in lighting, power, and motor circuits—up to 600 volts. They will protect both the circuit wiring and the apparatus connected to the circuit. A new illustrated booklet (GEA-3600) tells where and how to use them. Ask the nearest G-E office for a copy, or address General Electric Company, Schenectady, N. Y.

THE BREAKER WITH THE DISCONNECT FEATURE

GENERAL ELECTRIC

860-22



● *Built by*
DAVIS & FURBER MACHINE CO.

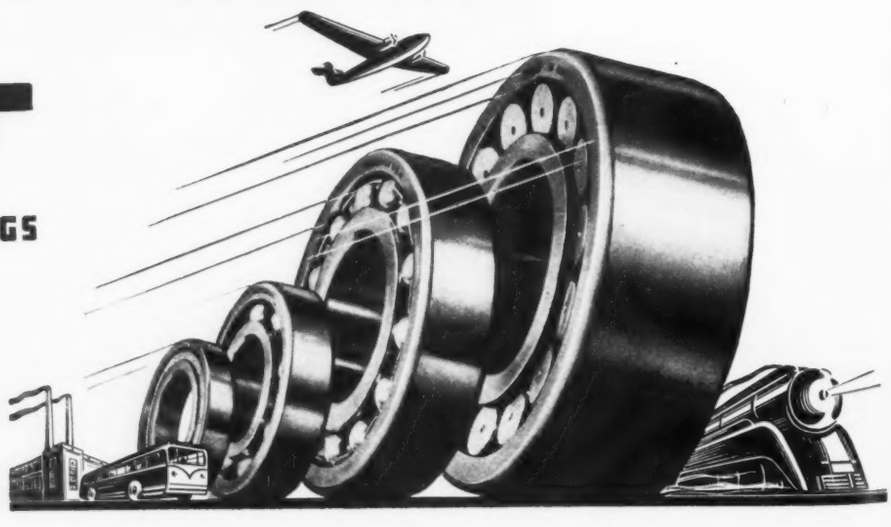
AN SKF BEARING
. . . on every roll

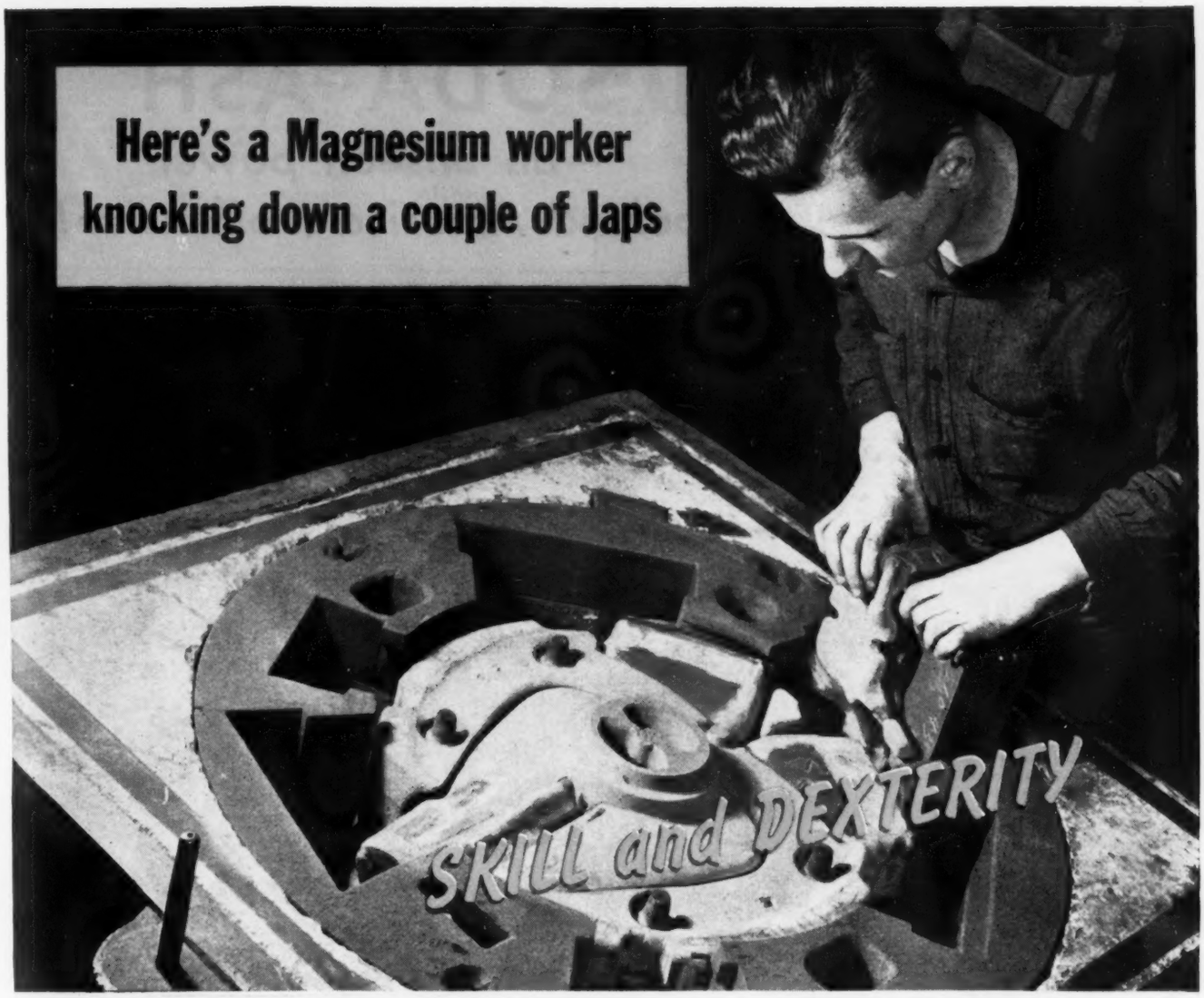
Marvelous are the machines today that handle fabrics for bandages, blankets, flags, tents, uniforms, etc. And just as marvelous are the bearings upon which these machines depend for easy continuous running, long-life — Production. A shining example is this Davis & Furber 36-roll Double Action Napper that has every napping roll mounted on SKF Bearings. No stops for bearing trouble here . . . no downtime because bearings lie down on the job . . . no extra parts for bearing replacements. Always there's smooth, continuous running with a minimum of starting power required. Most of the textile machines that are getting things done in the War Effort are doing it on SKF's. 5119

SKF INDUSTRIES, INC., PHILA., PA.

SKF

BALL & ROLLER BEARINGS





Fitting the dozens of cores for Magnesium airplane castings in molds like this one calls for exacting workmanship. We like to feel that the accuracy employed in American Magnesium Corporation foundries, the skill and dexterity of our workers, aid the gunner's aim when these planes get into action.

Mazlo workers are continuing their all-out effort to produce the tremendous quantities of Magnesium Alloy products needed for the war effort. As you know, airplanes and other combat equipment are taking every pound of these lightest of lightweight metal products we can produce. But tomorrow, when this war is won, there's going to be plenty of Magnesium for every peacetime use.

In thinking of the future, are your designers aware of what the high strength-weight ratio of Magnesium can do for your products? Mazlo engineers are available to assist you on tomorrow's problems as well as today's. Sales Agent for Mazlo Magnesium Products: Aluminum Company of America, 1705 Gulf Building, Pittsburgh, Pennsylvania.

AMERICAN MAGNESIUM CORPORATION

SUBSIDIARY OF ALUMINUM COMPANY OF AMERICA

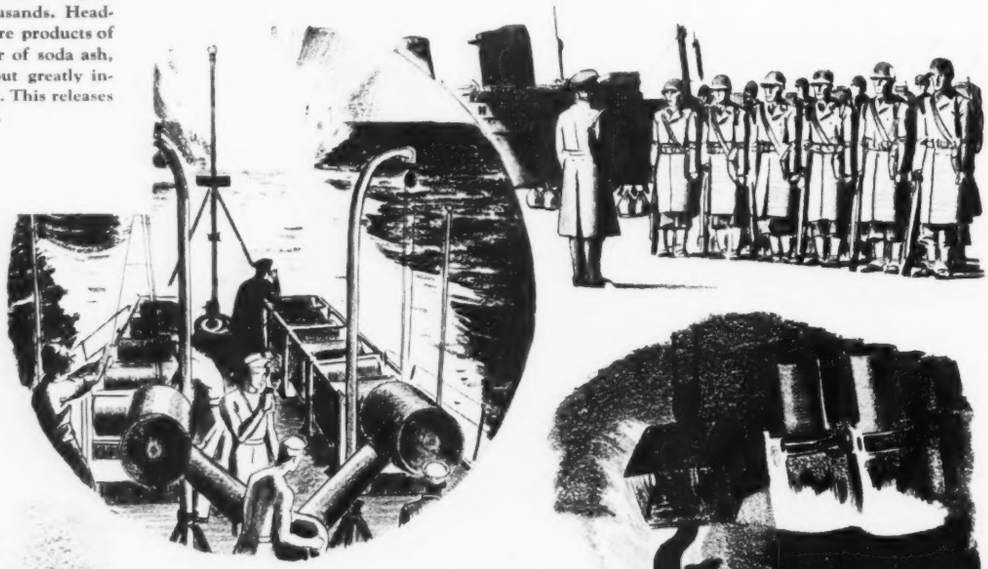
MAZLO MAGNESIUM PRODUCTS

SODA ASH

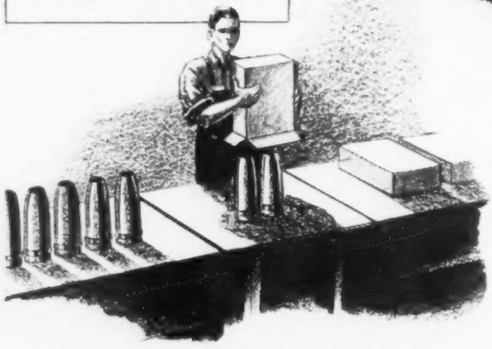
—an unseen power behind America's offensive!

JEEPS WITH GLASS EYES. Jeeps are rolling off U. S. production lines by the thousands. Headlamps and bulletproof windshields are products of the glass maker. Largest single user of soda ash, the glass industry is also turning out greatly increased quantities of glass containers. This releases vital tin and steel for war production.

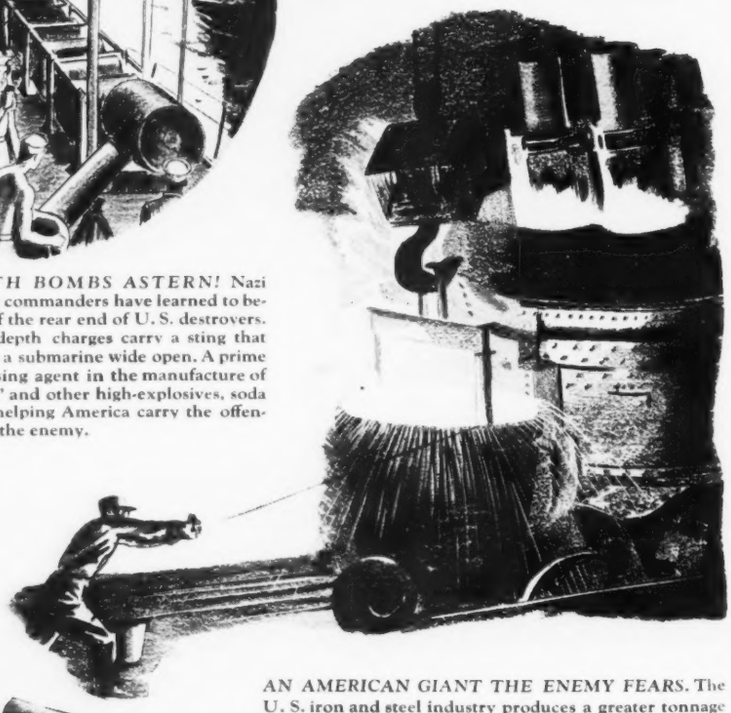
THE BEST-DRESSED ARMY IN THE WORLD—Wherever it goes—into the steaming jungles of the southwest Pacific or to the freezing shores of Ice'and—the American army is clothed in the finest uniforms to be found on any battlefront. In processing millions of yards of cotton, rayon and woolen cloth for U. S. military uniforms, the textile industry uses thousands of tons of soda ash.



SHELLS FOR HARD-HITTING 75's move along conveyor belts to stapling machines where they are sealed in cartons for shipment. Ordnance plants alone use 30,000 tons of paper every month for packaging shells. A major consumer of soda ash, the paper industry also supplies steel mills with 5,000 tons of kraft paper a month to interleave armor plate and cold rolled steel.



DEPTH BOMBS ASTERN! Nazi U-boat commanders have learned to beware of the rear end of U. S. destroyers. Their depth charges carry a sting that can rip a submarine wide open. A prime processing agent in the manufacture of "TNT" and other high-explosives, soda ash is helping America carry the offensive to the enemy.



AN AMERICAN GIANT THE ENEMY FEARS. The U. S. iron and steel industry produces a greater tonnage of metal than all the Axis countries combined. In iron foundries and steel mills, soda ash plays an important role in the production of more and better iron and steel castings.

OVER THE U-BOATS AND ENEMY ROADBLOCKS huge transport planes will ferry tomorrow's lend-lease materials to distant allies hemmed in by fire and steel. In the production of aluminum, from which these cargo planes are being fabricated, soda ash is an important processing agent. It is used to treat the bauxite ore from which pure aluminum is derived.

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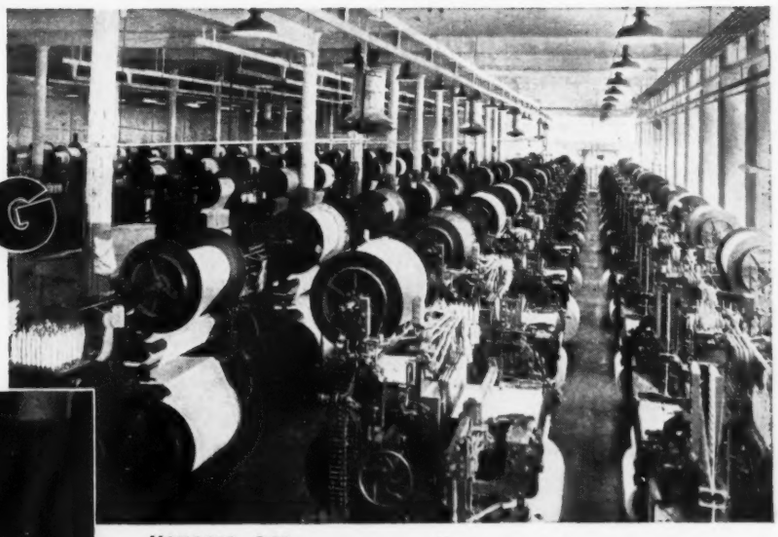
THE OCTOBER ISSUE will contain a wide variety of timely articles, many of them relating directly to the war effort. Thus, "Relighting for War Schedule" describes the steps taken by a large southern mill, which changed from civilian products to military fabrics, to increase illumination in the weave room. "Mill-Made Chlorine Bleach" discusses two methods for preparing sodium hypochlorite from salt. "Infra-Red Drying" considers one of the ways in which finishing plants can uncork bottle-necks and speed up production of vitally needed goods. "Card-Room Maintenance" (the third installment of this series) gives more practical pointers on upkeep of equipment under war-time conditions. "Spun-Rayon Blends on the Worsted System," continues the article begun in this issue. Additional features will cover practical applications of the stroboscope to spinning, the usual complete Washington coverage, and stories on several association meetings which are being held in September.

HIGH SPEED WEAVING



"STAYS ON loom parts," say maintenance men.

"STAYS OFF goods," say inspectors.

FEWER SPOTS

EVEN in the face of today's stepped-up loom speeds, you can reduce spoilage from oil-throw . . . when you use *Texaco Stazon.*

Texaco Stazon *stays on* fast-moving loom cranks, pick cams and other parts. Resists thinning out, creeping, splattering . . . assures lower cost lubrication, fewer "seconds," longer loom life.

The outstanding performance that has made Texaco preferred in the fields listed in the panel has made it preferred by prominent mills in every textile area.

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★ More Diesel horsepower on streamlined trains in the U. S. is lubricated with Texaco than with all other brands combined.

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★ More revenue airline miles in the U. S. are flown with Texaco than with any other brand.

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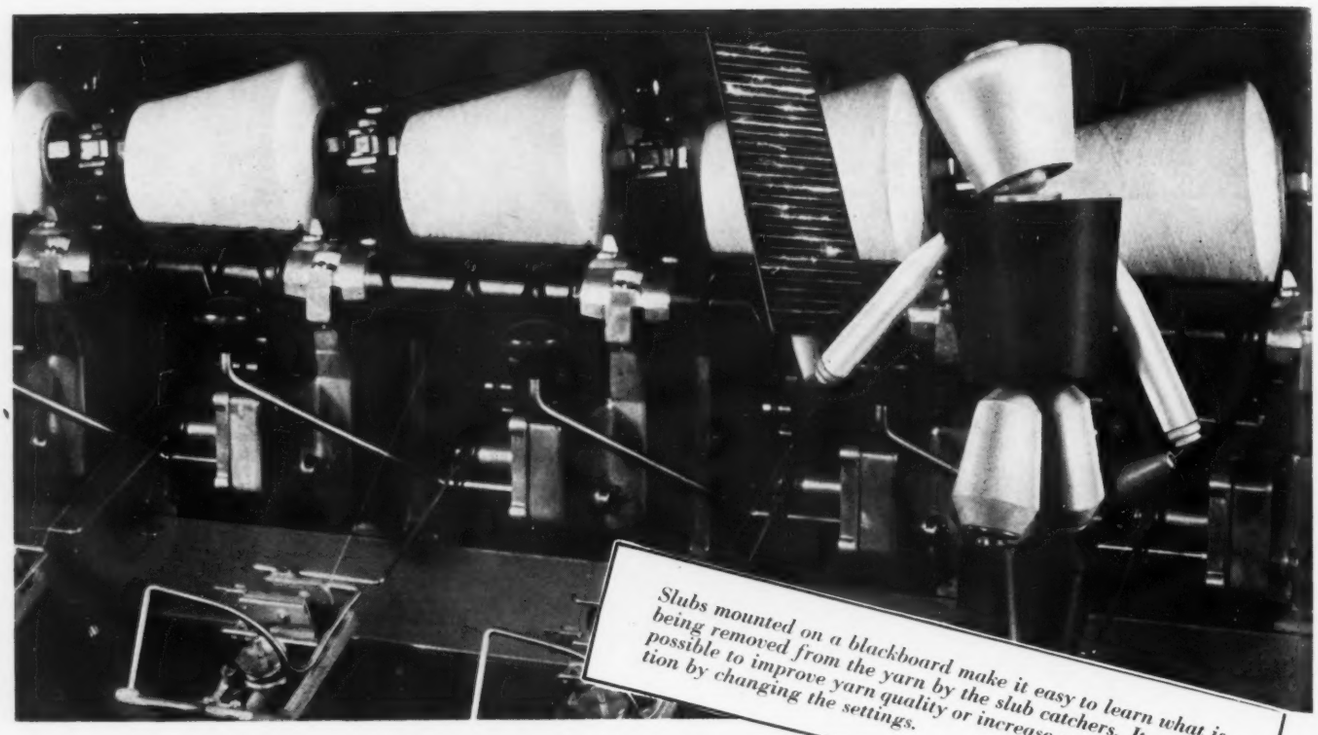
FOR THE TEXTILE INDUSTRY

HELP WIN THE WAR BY RETURNING EMPTY DRUMS PROMPTLY

Inspected Yarn for Knitting High-Quality Fabrics... from the **ROTO-CONER***



Slubs mounted on a blackboard make it easy to learn what is being removed from the yarn by the slub catchers. It may be possible to improve yarn quality or increase operator production by changing the settings.

For winding knitting yarns, the Roto-Coner* is fitted with two Precision Slub Catchers, independently adjustable. The special design of these Slub Catchers makes it easy for the fixer to get accurate and parallel settings. Once set, the blades are locked in position to protect against change due to vibration or tampering.

Yarn wound on the Roto-Coner* will also be free of "fuzz"; the rotating traverse revolves in the same direction the yarn is travelling, so there is no chafing to rough up the fibres. Roll-cut yarn has been eliminated entirely by the smooth, one-piece driving and traversing roll.

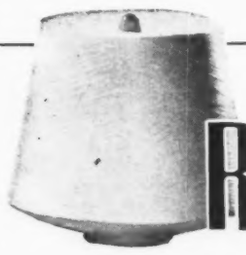
Such yarn can be used on the knitting machine without rewinding.

PRECISION SLUB CATCHERS

When making a new setting, a wrench (*A*) is used to unlock and open the old setting, so that a feeler gauge can be inserted. A spring tension closes the upper half against the feeler gauge, insuring an accurate and parallel setting under uniform tension. When the MacColl (needle-type) is being set, a clip (*B*) is slipped over the needles to hold them rigid. The wrench then locks the setting, and the gauge can be withdrawn with ease.

See our Catalog in TEXTILE YEARBOOK

*Reg. U. S. Pat. Off.



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The Aviation Industry is doing its job...

A Year's Production A Week — Every Week

A MERE hundred planes a month in 1938; 200 in 1939; 450 in 1940; 1,600 in 1941, and today, as this is written, plane production goes on at a rate of 5,000 a month. A previous year's production now in one single week — every week.

So begins the story of the greatest industrial expansion in history; an industrial miracle that far surpasses anything our enemies ever have done or can do. Not only did we out-produce the Axis but the acceleration in our production during the past 12 months exceeded the greatest increase in German output during their forced-draft war preparation of 1939, when their production rose from 1,100 to 1,600 planes per month.

The toughest part of our job was accomplished in 20 months. We boosted deliveries from 100 or so to 1,000 planes a week, passing the combined Axis powers. Today, Germany's curve is flattening; ours is climbing steeply. Lt. Gen. Henry H. Arnold, Chief of the Army Air Forces, assures us that Army contractors will produce not less than 148,000 planes in the remainder of 1942 and in 1943. During that same period Navy contractors will turn out at least 37,000 additional planes.

Manpower in the airframe, engine and propeller industries was increased from 125,000 to 450,000 workers during the past 20 months, with the prospect that the industry will be employing more than 1,000,000 men and women in 1943. Many manufacturers are solving their personnel problems by recruiting women workers. More than 40,000 of them — teachers, stenographers, waitresses, housewives and school girls — today are welders, assemblers, machine operators and inspectors on aircraft production lines. Productive floor space in the airframe, engine and propeller industries expanded from 18,000,000 sq. ft. to nearly 55,000,000 sq. ft. during the last 20 months. Further expansion to more than 60,000,000 sq. ft. may be expected this year and an ultimate figure of more than 100,000,000 is a distinct possibility.

To grasp the full magnitude of this task we must remember that a single medium bomber has 30,000 parts, which are built into 650 minor sub-assemblies to make 32 major sub-assemblies. The entire process involves 30,000 man hours of labor. Each of the two engines in this plane requires 50,000 specialized inspections. Every one of the 50 instruments entails many hours of precision workmanship. Yet today there is one factory turning out 4 bombers every day. Another produces fighters at the rate of nearly 20 a day.

To the amazement of the entire world these manufacturing miracles were accomplished without sacrificing the high standard of American aeronautical equipment. There has been some loose talk about the quality of our combat airplanes as compared with those of our allies and our enemies. Indisputable evidence of the superior stamina of our aircraft under fire is written between the lines of almost every war communique. Every battle record tells a story of heavy losses inflicted at small cost upon numerically superior enemy forces. The consistency of this performance on all the far-flung battlefronts constitutes the most eloquent testimony of the high calibre of our designs, our manufacturing methods and the skill and daring of our pilots.

And let us remember that our decisive victory in the battle of production was not won without headaches and heartaches on the part of management, labor and government.

When the President sounded the call for 50,000 planes in the spring of 1940, the program called for only 5,500 military aircraft. Government and industry reeled from the shock — both determined, however, that it *could and would be done.*

The Army, the Navy and the old Defense Advisory Commission set to work to draft a program. This has been revised many times — upward! Congress then proceeded, more slowly, to modify the laws that would have obstructed the realization of the objective. Then the aviation industry, without contracts, in the face of discriminatory profit-limitative legislation, and with nothing but oral assurances of governmental intentions, went ahead with its Herculean expansion plans. New factories were completed long before facilities-contracts and their funds were forthcoming.

The rugged individualists who had founded and built the aviation industry cast aside their rivalries and embarked upon a period of unselfish cooperation. Priceless engineering experience was exchanged. Material was relinquished for transfer to plants where it was needed more urgently. Successful personnel training methods and experience in the use of women workers were pooled for the benefit of all concerned. During one re-

cent month, the cooperation among eight southern California plants averted more than 1,860 potential bottlenecks in production.

As the lessons of the war dictated the need for greater numbers of particular airplane types, many manufacturers accepted orders for planes designed and developed at rival factories. Striking examples are the long range bombers being turned out by plants where only trainers, fighters or dive bombers formerly were made.

Mindful of the risk involved in educating rivals, thereby creating future potential competition, subcontractors nevertheless were sought and trained by pioneer manufacturers. Makers of toys and wheelbarrows, automatic stokers and linoleum were among those who rallied to the call. Within a year subcontracting rose from 13 to 36 per cent of the total program. It still is rising.

When the automotive industry came into the picture, aviation manufacturers gave generously of their time and knowledge to start the newcomers. Liberal licensing arrangements enabled them to reap the full benefits of technical developments. Automotive engineers swarmed through the aviation plants in search of the exacting "know-how" of the aeronautical industry.

Each type of aircraft that reaches the production stage is the result of long periods of research, design and development. The unseen workers toiling in the wind tunnels and the laboratories of government and industry are the unsung heroes who tirelessly are striving to surpass all previous efforts. Their brilliant accomplishments are eloquent testimony of the superiority of men and women who are blessed with freedom of action and thought. Today more than 20 experimental combat airplanes are under development and will replace older types as soon as they fulfill the exacting requirements of our armed forces. Among these are aircraft that promise to outfight and to out-perform any and all of the much vaunted warplanes of the Axis military machine. And this without loss of production.

Every man, woman and child of all the United Nations may fervently be thankful that those who chart our course in aircraft production have not frozen design to such a degree as to make impossible the immediate adoption of improvements as they come out of these laboratories.

What does this brilliant record mean in terms of final victory?

Every newspaper reader has learned this basic war lesson . . . air supremacy is the essential ingredient of military success. As the balance of air power shifts, so do the fortunes of war.

In those dark days when our output was 500 planes a month, Germany's was 2,000 and the German air force was twice that of our Allies. When we reached 2,000 a month last fall, Germany had advanced to a monthly rate of 2,500. Today, as this is written, we have caught up with the enemy's backlog. The air forces of both sides are about equal numerically and United Nations' production exceeds that of the Axis by 27 per cent. Next summer (1943) both the air force and the output of the United Nations will be double those of all the Axis powers.

That is the pattern of ultimate victory!

The pattern of the peace to follow also is gaining in definition. The airplane has shriveled the world to one-fifth its former size. Its use as an instrument of destruction is but a momentary distortion of the pattern of human progress. Its potential power, as a stern preserver of peace, is beyond imagination. Today's air routes of our Army Air Force Ferrying Command are the international trade routes of tomorrow. Giant airliners, by reducing time and space, will speed fraternity among the nations and disunity will give way to better understanding and goodwill.

Flying freight trains, with aerial locomotives towing glider boxcars, will serve large cities, decentralizing population and giving to inland cities many of the commercial advantages of seaports. Air mail and passenger pick-up lines will fill the gaps between these transcontinental trunk lines and tie in the smallest hamlets. Universal fly-it-yourself services will provide airplane facilities for those who do not own low cost private aircraft. Roadable rotary wing aircraft and family planes of the fixed wing type may even run household errands.

The coming generation of business men who today is piloting our war planes will find aircraft as essential to business as it now finds them essential to victory.

Commenting on our war production record, Donald Nelson has said, "We are today in the position of men who realize that they are actually doing the impossible".

The mass production miracle that the aviation industry — management and workers alike — has performed through the all-out effort of free enterprise can and will serve civilization in peace as it has in war.

With this boundless new medium of transportation and its concurrent technological developments we shall rebuild our way of life to a rich, new fullness upon the ruins of a war-torn world.

President, McGraw-Hill Publishing Company, Inc.

This is the third of a series of editorials appearing monthly in all McGraw-Hill publications reaching more than one and one-half million readers.

TEXTILE WORLD

DOUGLAS G. WOOLF, Editor

"Not Labor's to Demand"

THE AUTOMOBILE DEALER who now has nothing to sell, the specialty manufacturer whose plant is closed down because of lack of materials, the salesman who has lost his job, and many other economic casualties of the war, must rub their collective eyes in wonderment at the ruling of the War Labor Board in the textile wage case.

They must wonder what "freedom of opportunity for all" means when they themselves lose their shirts without Governmental help except assistance in pulling those shirts off—and yet read of a kindly Governmental agency which grants a 7½¢ hourly increase to certain employees to "eliminate inequalities" and to "stabilize wages."

Those whose very means of a living has been "eliminated" and to whom "stabilization" means poverty, must wonder what it takes to secure Governmental aid in one's economic problems.

The blunt answer is that it takes organization. The automobile dealers, the specialty manufacturers, the salesmen, and the other casualties—all fore-runners of infinitely more casualties still to come—have no political pressure. On the other hand, organized labor has a form of pressure, nurtured by the present Administration for the last decade, which is not surpassed by that of any other group—not even by the farm bloc, the only other competitor for that high honor.

IN ITSELF, the WLB textile-wage decision is of relatively little importance. With the nation in dire peril—and with that peril growing more ominous each moment as we write these words—what happens to 51 mills, or even to a whole industry as the wage-increase infection spreads, is not newsworthy. Any more than is what happens to the automobile dealer, the specialty manufacturer, the salesman, and the other casualties—as we are sure they have been informed by Governmental agencies to whom they appealed for help.

None of those individual effects—whether up or down—means anything against the background of world freedom endangered, and of millions of American boys just now embarked on what threatens to be the most wholesale slaughter of American youth in history. Those boys do not count the cost, nor do we parents—because they and we know that no cost is too great to stop Hitler.

But in a broader sense, the WLB action—as part of a basic trend—is of cosmic importance. It is a sample of a serious blind-spot in our "all-out" effort for war. "All-out" means "all-out." It means that everybody pools his resources toward a common course: beating the enemy. When one group or another gets special privileges, special consideration, then "all-out" is a hollow term.

EVERY ACT in industry today must be gauged by these two yardsticks:

1. Does it help toward greater production to beat our external enemy, Hitler?

2. Does it help to beat our internal enemy—inflation?

On neither of these counts are wage increases justified.

On the first count, the normal processes of competition for labor will determine the fight for more production. If an employer doesn't or can't meet the local market demand, he will lose out.

This writer has for many years been an ardent advocate of higher wages in textiles. He has seen that goal achieved; the advance since NRA days has been great. He welcomed the minimum wage, as a means of curbing the unethical minority: the wage chislers. Beyond that, he feels that economic laws must be allowed to prevail.

To compare average earnings of 51.5¢ per hour in the cotton-textile industry with average earnings of 81.9¢ "for all manufacturing," as the WLB did, is sophistry. There is no more hope of leveling off the wages of a weaver with those of a skilled worker in an automobile plant, than there is of leveling off the wages of a domestic servant with those of a business executive. Nor is there any reason for desiring such a leveling off. Democracy doesn't mean that. Socialism and Communism do.

On the second count, the granting of wage increases for "equalization" purposes is the antithesis of the President's own dogma: "standardization" of factors entering into the costs of commodities, thus to prevent inflation.

On that score, there is some sober thinking to be done by industrialists, by labor leaders, by Governmental agents, and by the public.

We, as a nation, are spending or planning to spend hundreds of billions of dollars which we haven't got. We are devising a tax program which, even though it is like spitting against the wind insofar as meeting those expenditures is concerned, is yet great enough to threaten eventual bankruptcy to a large minority—or even possibly to a majority—of American business enterprises, the primary source of American income.

This time next year, 1943, many of the companies now reporting net profits in 1942 will be recording losses. If the war lasts until 1944 or 1945 or beyond—as

it probably will, judging from the news at this writing—American industry and business will be bankrupt. The handwriting is already on the wall. Look at many financial statements for 1942 to date: greatly increased sales volume over 1941, but sharply decreased net profit *after taxes*. And each year, as the war is prolonged, taxes will be a larger percentage item.

In the balance-sheet of industry, wages are of primary importance. If we let them get out of hand any more than they have to date, we shall be in for the added burden of the 1920's which led to inflation succeeded by deflation. In this prospect, wage-earners have even a greater stake than has management. Any employee old enough to remember the post-1929 period will recall that nominal hourly wages were sawdust in the mouth instead of bread; in fact, those workers whose hourly wage had increased the least suffered relatively less in their weekly pay-envelopes than did those whose rate had gone sky-high but who could find no work to do at those nominal wages. You can't get wages or profits out of a sick industry.

Consequently, now seems the time for all groups, including WLB, to recognize this fact: If we want to keep a democratic system working, we mustn't hamstring it. On the other hand, if we want to capitulate now to state socialism, before we meet the enemy on even terms, then the one sure way to do it is to build up pressure-group interests to take their toll out of the rest of the 130,000,000 Americans.

FINALLY, it seems to this writer appropriate to record below the utterance of one Governmental official who knows what all the shootin' is for. Richard Gilbert, Deputy Administrator of OPA, said:

1. "Before the end of the war the living standards of the American people will be reduced below the level prevailing at the bottom of the great depression. Under these circumstances no group can improve, nor avoid a reduction in, its standard of living except at the expense of other groups . . . .

2. "Industry's profits are not labor's to demand, nor industry's to give away, in swollen salaries, dividends, or wages. They belong to the Government. Through pending legislation, the Government will find a way to claim its own."

Amen. But let us hope that the Government will find a way to claim its own from "swollen" wages, just as it already has started to claim its own from "swollen" salaries, dividends and profits.

The only way to fight this war is by conscription. Man-power has been conscripted for military purposes, as most of us have personal reasons to know. Excessive salaries and excess profits are being conscripted through taxation—and this time next year will be almost completely so. The next item—although it should have been second only to military conscription—is conscription of labor.

To revert to a personal note: In the last war we were stationed at a flying-field where privates worked from sun-up to sun-down at a mere pittance but where employees in the construction industries worked eight hours a day at fabulous wages. Even at our then youthful stage, we felt that in the next war, conscription should be universal. But here we are fighting another war while great masses of the population not only are not conscripted but secure the benign blessing of Government agencies to get all they can while the getting is good.

That is not the way to win this war. Ask Hitler; he knows.

What About the WPB?

THE WAR PRODUCTION BOARD is on the spot—and with it, its chief, Donald Nelson. To the extent that such questioning and criticism are healthy—even, and particularly, in war-time—that is all to the good. To the extent that a stampede might lead to hasty action, it would be all to the bad.

First, let's examine the main reasons why WPB *is* on the spot:

1. As an organization manned—largely and necessarily—by representatives of business and industry, it is a natural and ideal target for sniping from Congressional committees, labor blocs, anti-business groups, plus the fringe of dissidents who in one way or other, and for one purpose or another, want to impede the war effort.

2. As an organization which grew like Topsy from a small nucleus to a great sprawling outfit, it has all the weaknesses inherent in such mushroom growth—and these weaknesses are targets for well-meaning critics who have no axes to grind.

3. In its make-up, there are included self-seekers, who are inclined to exploit their jobs for their own interests or for personal publicity, and also a number of starry-eyed dreamers. The result is sniping from within.

Thus we have three kinds of snipers: those with a purpose, those to whom the weaknesses of the outfit obscure the strength, and those from within.

More than that, there are certain basic organization problems which have not yet been solved:

1. The relation between WPB and the Armed Services has never been straightened out. Theoretically, since the President's directive to Donald Nelson last January, WPB is supreme and has the last say. But in this writer's earliest contacts with WPB, it was clear to him that the Services were writing their own tickets for raw materials, et al. Whenever he raised the question in WPB as to the ultimate authority on the final show-down, he encountered a "leave-it-be" attitude: a disposition to dismiss that question with the statement that the Armed Services knew best what they wanted, and that if and when a show-down ever came, then we would see what we would see. The result has been the creation of artificial shortages of materials, because of vast quantities earmarked for specific purposes and held idle. More important still, the result has been the lack of an overall plan to dispose materials where they are most needed today, tomorrow, next week, next month, next year.

2. Squeamish ideas regarding the danger of putting men who knew about an industry in charge of that industry's part in the war effort has resulted in 5-and-10-cent-store men handling intricate problems involving industrial technique. Similarly squeamish ideas regarding the "menace" of trade associations has deprived WPB, to a large extent, of the services and information of the groups best qualified to supply the answers.

3. Mushroom growth of committees and bureaus and sections and divisions, with cross-sectional groups cutting across all those entities, has created a maze of bureaucracy within WPB.

ON THE POSITIVE SIDE these facts are true:

1. WPB has delivered the goods miraculously.

2. Donald Nelson is not only the best man for the job; no other man has been suggested who could even touch him. Nor is he blind to WPB defects; he is working hard on them.

3. The percentage of self-interest in WPB is of course larger than that which might prevail in Don Marquis' "almost perfect state," but far smaller than that which might reasonably be ex-

pected by the most ardent believer in democracy.

THE SOLUTION, in this writer's opinion, is:

1. Donald Nelson should assert completely his domination over the Armed Services in the disposition of materials. He has already made a start.

2. The maze of committees should be straightened out, and some of the more academic bureaus discharged to the hinterland for the duration.

3. Men who know about textiles, or steel, or what have you, should be placed in complete charge of those divisions, with proper supervision over the small minority which might want to make war suit their own ends.

4. Trade-association executives should be given full play to exert their inexhaustible fund of knowledge toward winning the war.

5. Congressional committees should stop sniping at dollar-a-year men, as such, and concentrate on agencies of Government which, unlike WPB, have *not* been performing miracles.

Salvage Now!

Grand as is the opportunity of the average American citizen to help beat Hitler and Hirohito by salvaging rubber, fats, and other needed materials, the role of every textile manufacturer is infinitely more promising. There are countless tons of precious metal tied up in inactive, obsolescent, or obsolete machinery. Some of it has found its way to the market place, but only a small part. The goal is 100%.

Here, as in bond-buying, there is a selfish angle. The more completely this industry can be purged, now, of its ineffective equipment, the more readily the industry will be able to adjust itself to the high-powered post-war economy.

When this mess is over, obsolescent machinery will have no value except nuisance value. And those of us who have been through the last post-war period know how destructive a value that is!

From, say, 1945 on, the race will be with the swiftest. Those with old run-down plants will lose out. If we can rid ourselves now of the menace of marginal machinery, turning out high-cost goods at cut prices which in turn threaten the whole price-structure of the industry, we will have taken an important step toward winning the peace.

So, as you scrap your old machinery and send it on its way to help knock hell out of Hitler and Hirohito, remember that that same act will also make for a saner industry.

Salvage now, for American security and for the security of the textile industry!

Letters to the Editor

"Let's Go!" and "How Long?"

NEW YORK

Editor, TEXTILE WORLD:

It is a long time since I have read anything that has appealed to me quite as cogently as your editorial "Let's Go!" on page 49 of the August issue of TEXTILE WORLD, your comments on pitfalls of post-war planning on page 50, and your question "How Long?" on page 51.

I shall be looking forward to your next month's issue, and in the meantime, I hope a way may be found to get started on the correction of the present situation.

JOHN A. WILLARD
Bigelow, Kent, Willard & Co.

* * *

BOSTON, MASS.

Editor, TEXTILE WORLD:

I have just read in the August issue of TEXTILE WORLD your splendid editorial, entitled, "How Long Must We Wait? How Long?" You have raised questions that have been in my mind for a long time and these questions have not been properly answered. I am wondering whether those in Washington at the present time can answer them. We certainly are not getting the results we had a right to expect and I wonder if we ever will under the leadership that now exists. The practical question, however, is—What can we do about it?

FRANKLIN W. HOBBS, President
Arlington Mills

* * *

MARCUS HOOK, PA.

Editor, TEXTILE WORLD:

Three cheers for your editorial "Let's Go!" in the August TEXTILE WORLD giving your eleven "starters" as to what to do about it. I am in full agreement with you, but how about adding a twelfth about freezing wages for the duration? You certainly cannot have effective price ceilings if wages are allowed to run hog wild. But the eleven points are just a few starters as you say.

Also your article "How Long Must We Wait? How Long?" is very much to the point. It's a splendid summing up. I should like very much to have six copies of the editorial and article as I can put them to good use.

DR. F. BONNET
American Viscose Corp.

* * *

FITCHBURG, MASS.

Editor, TEXTILE WORLD:

Have you any reprints of your editorial on page 51 of the current issue of TEXTILE WORLD? And if so, may I have a few to send to friends? Not that they need converting; they think as you have expressed now. But it will hearten some I know to realize that someone has the intestinal fortitude to get up on his hind legs and speak out.

Politics as usual! And as for politicians, may God have mercy on their souls. Me;—I am not so forgiving.

R. S. PARKS
Parks-Cramer Co.

* * *

PHILADELPHIA, PA.

Editor, TEXTILE WORLD:

I cannot resist rendering a reply to your editorial in the August issue of the TEXTILE WORLD called "Let's Go!" which in my estimation hits the nail on the head. Let me congratulate you on the spunk and the well selected points which I think should be published in every newspaper in the country.

Relative to the financing of the war through taxes and other measures, I am very glad that you touched the sales tax question which, in my estimation, is the one solution to avoid a most disastrous demand on industry and private capital.

MANUFACTURER

Protection Against Accidents

WASHINGTON, D. C.

Editor, TEXTILE WORLD:

I have read with a great deal of interest the article—"Protection Against Accidents"—on page 88 of your July 1942 issue. It is a valuable article, and I hope that more equally well written ones may appear in such journals as the TEXTILE WORLD.

I am particularly interested in the reference to the accident prone employee and would like, if I may, to exchange information with the United Merchants & Manufacturers Management Corp. which the article states has found a means of measuring accident proneness.

R. P. BLAKE, Senior Safety Engineer
Division of Labor Standards
U. S. Department of Labor

Safety at Collins & Aikman

Record of 4,000,000 man-hours without an accident due to well-organized plan

Collins & Aikman employees are justifiably proud of their no-accident record.

By WALLACE GILL, Jr.
Personnel Manager, Collins & Aikman Corp.

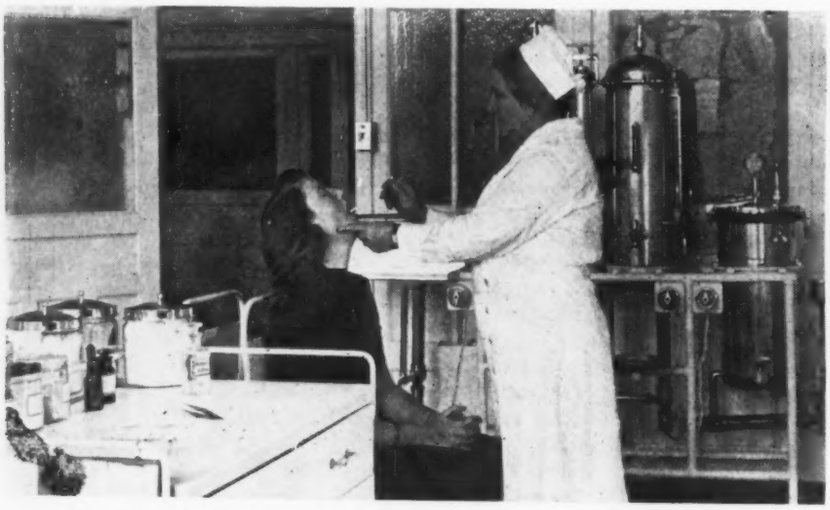
A MOMENT OF CARELESSNESS on the part of an employee at the Philadelphia plant of Collins & Aikman Corp. recently resulted in a badly lacerated hand. But the physical pain was slight in comparison to the mental anguish felt by this man. He realized that his carelessness had shattered a safety record that was the pride of every employee in the plant. Up to the time of this accident the plant had operated 708 days, or 4,625,496 man-hours, without a single lost-time accident. This excellent record was possible only because every man and woman working in the mill put forth a conscientious effort to work safely. In addition, every employee considers him or herself as a committee of one to check up on hazards. If an employee is seen doing something that might lead to an accident, his neighboring workmen lose no time in telling him about it. If some feature of the plant or machinery constitutes a hazard to safety, any employee feels free to tell the management about it, and the condition is immediately remedied.

The safety-mindedness of these Collins & Aikman employees was developed by years of intensive education. From the very beginning the management was completely sold on safety, not only as imperative to proper industrial relations, but also as a sound dollars-and-cents investment. Selling safety to the employees was a more difficult problem and was vested in the personnel department in cooperation with departmental heads.

In the earliest safety meetings of the personnel department and plant supervisors, it was readily admitted that many accidents could be avoided. Further, it was established that elimination of accidents was largely a responsibility of the supervisors. This was particularly true in view of the fact that the management was more than eager to adopt any practical step necessary to reduce accidents. With this establishment of responsibility, the safety program was launched in the entire plant in one step. With these men actually on the firing line preaching safety, it was merely a matter of time before their doctrines infiltrated into all employees. Further, with each departmental supervisor active in reducing safety hazards, each department has, in effect, a safety man acquainted with the individual problems typical of his department.

At the same time a general educational policy was established. Safety pamphlets were distributed and posters hung in conspicuous places. For these latter, employees were urged to submit drawings and slogans. This was effective in getting employees to thinking about safety and how to reduce hazards in their own type of work.

Further to stimulate original thought among employees, suggestion boxes were installed at various places in the plant. Worth-while prizes were offered for good suggestions. A committee to read the suggestions was set up; it in-



A well-equipped dispensary with nurses in constant attendance assures prompt treatment of injuries or ailments.

cluded the plant manager, personnel director, and director of research. Results from these suggestion boxes were highly gratifying and many of the offerings adopted.

One of the most interesting of these was a selvage-turning device. During some finishing operations, operators would turn selvages by hand as the cloth was going into the machine. The result was that there were many minor injuries due to cut fingers. One day a suggestion turned up with a complete drawing showing a method of turning selvages by means of a handle. This plan was adopted, and cut fingers from this cause have been eliminated.

It was early realized that plant cleanliness is conducive to safety. Aisles are bordered with freshly painted white lines, and must be kept clear at all times. An interdepartmental competition for cleanliness was also established. Three company executives served as judges, and they were likely to make a tour of the plant at any time. This put over cleanliness in a big way, and these good-housekeeping policies have been largely responsible for subsequent safety records.

One of the most prevalent types of accidents was eye injuries. These have been practically eliminated by supplying every man doing grinding, scraping, or chipping work with a pair of personal goggles. This has proved much more effective than, for instance, hanging a pair of goggles on each grinding machine for use by any one who operates the machine. A man is more likely to make conscientious use of his own personal goggles than he is to wear a pair that has been used by everybody that came along.

The problem of faulty ladders has been overcome by making the carpentry foreman responsible for the condition of all ladders. Once each week he inspects ladders, repairs those that can be fixed, and replaces those that are becoming hazardous.

EXCELLENT DISPENSARY FACILITIES at the Collins & Aikman plant assure employees the best of medical care. In addition to the large, spic-and-span examination room, there are separate rooms with beds for men and women. Two nurses are regularly on hand and a doctor calls twice each day. As further assurance of prompt and off-hour attention, all plant guards have been trained in first aid. One of the most important rules that is drilled into every employee is: "If you are injured, no matter how slightly, while in the course of your employment, you must immediately report to the plant dispensary for treatment." Considerable educational work and a few disciplinary examples were necessary before this rule was completely followed, particularly among piece-rate workers. Yet proper regard of this rule has prevented small cuts from developing into serious infections.

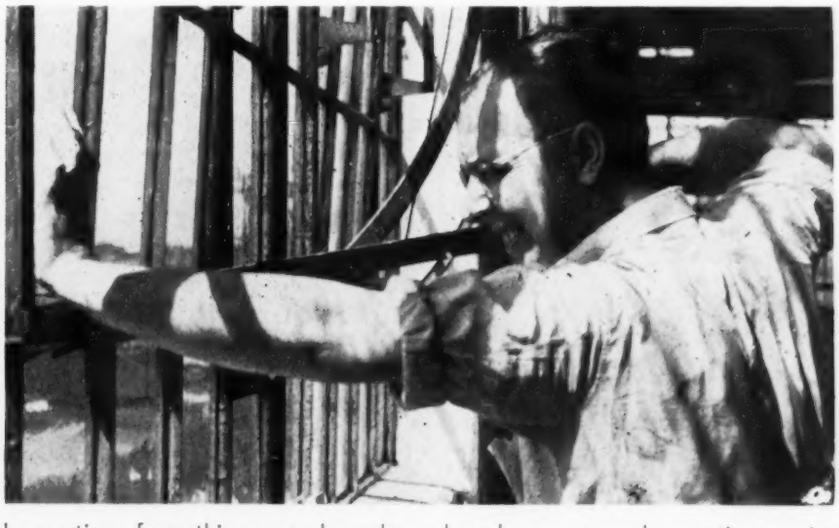
Because a sick employee is a definite safety hazard, the company keeps a careful watch on the health of its operatives. Dispensary and doctor service are always available for medical attention or advice. Arrangements have been made with an outside optometrist and dentist for treatment of eyes and teeth at reasonable fees. If desired, bills for such work can be paid for by weekly deductions from pay checks. New employees and those returning to work after prolonged illness must undergo a complete physical examination. This not only protects the returning employee, but assures that the welfare of other employees will not be endangered.

THE PRESENT SAFETY COMMITTEE, made up of 15 frequently changed representatives from management and operatives, holds regular meetings each month, tours the plant each week, and investigates all accidents and near accidents. A special budget has been set up to cover expenditures necessary for guarding machines and purchase of safety appliances. This has eliminated the possibility of bickering or buck-passing with departmental budget authorities.

New employees are given a small booklet called "The CA-Vel Guide," in which company policies are tactfully outlined and the importance of safety emphasized. In addition, each new employee is shown the dispensary and given a talk by the employment manager on the fundamental principles of accident prevention, treatment of injuries, and rules of safety.

Since the inauguration of this active safety campaign, reduction in lost-time accidents has reached astounding proportions. Periods between lost-time accidents have at various times extended for 418, 520, and 708 days. With the establishment of long safety records, employees have displayed a safety enthusiasm that keeps everyone on the alert and careful. Little disciplinary action is now necessary to enforce safety rules, because no one wants to be the cause of breaking a splendid record. During the past few years three State certificates of honor have been awarded, and a bronze plaque was presented by Liberty Mutual Insurance Co. in recognition of a record of four million man-hours without a lost-time accident.

Each man who uses a grinder is given a pair of goggles of his own.



Lacerations from this source have been largely overcome by posting copies of this photograph and a suitable warning on bulletin boards in the plant.

Rayon Hose No. 1 Job Is Education

Rayon full-fashioned aided by careful promotion; guidance of sales personnel

By JOHN BLACK

A TAILOR-MADE REVOLUTION! That is the best way to describe the epoch-making change which the last year has brought to the full-fashioned hosiery industry. Transformed almost overnight from a silk stocking era to a Nylon era, it was launched without pause, to a rayon era—little wonder now if the hosiery industry were somewhat breathless and bewildered. Yet the fact is that the industry is making the transition with a minimum of interruption or confusion.

The sudden swing to rayon full-fashioned, of course, has created problems—many of them. And it has raised questions some of which will go unanswered for the duration. The most encouraging side of the picture is the splendid spirit of cooperation shown by all parties—rayon producers, knitters and retailers—in adjusting to the new order of things, and in striving for the best quality of hosiery compatable with war restrictions.

Analysis of rayon's progress and outlook in full-fashioned hosiery falls into four divisions. These, alliteratively, are: processes, production, prices and promotion. They will be considered in that order.

PROCESSES: Extended inquiry among manufacturers and retailers indicates that both the hosiery manufacturer and the store have adopted an attitude of strict impartiality as regards the respective rayon processes. Cuprammonium has a slight advantage over viscose yarn in acceptance by the retailer, and this is attributed to the prestige of the Bemberg name. However, it is emphasized on all sides that quality in the stocking, irrespective of fiber, is what finally counts. Acceptance of viscose full-fashioned has been growing steadily. Increased production of fine denier viscose yarn has helped the development of finer rayon hosiery. Viscose yarn now is being used for 51-guage full-fashioned. These stockings, recently introduced, are being highlighted as fashion items by exclusive stores. Viscose yarn producers claim that this rayon has only begun to show its possibilities for high quality full-fashioned hosiery.

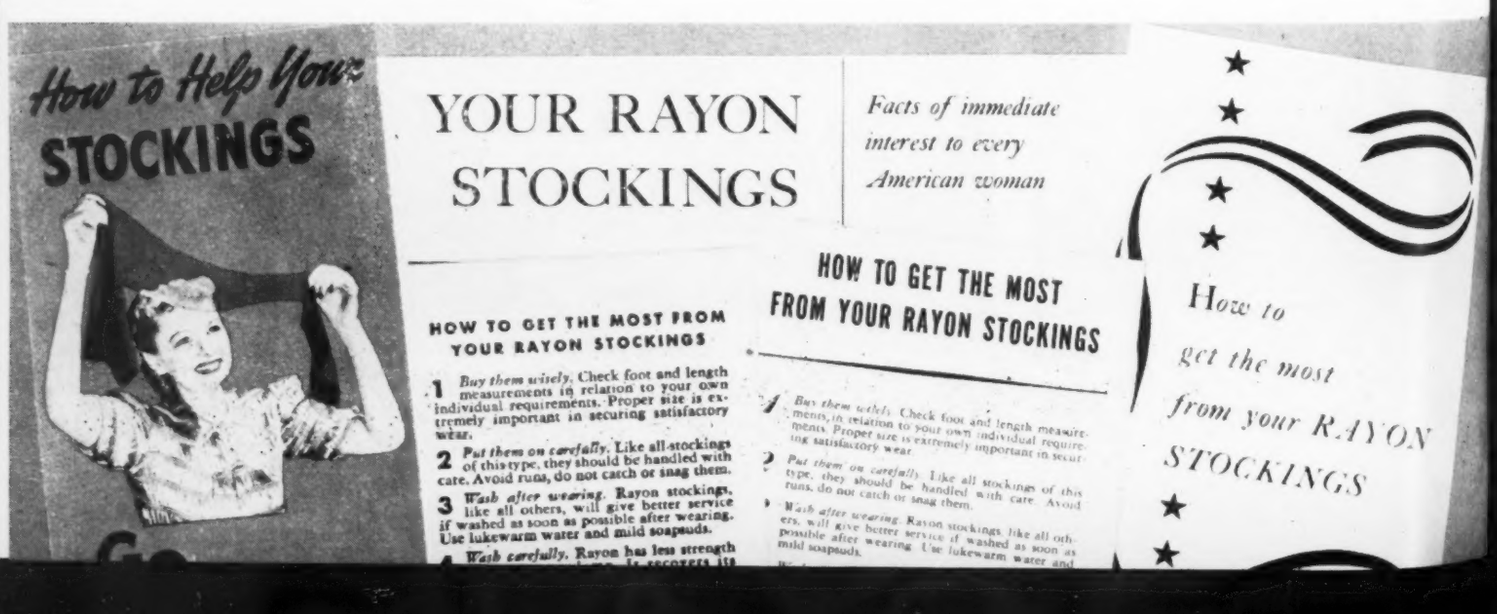
What are the prospects for acetate in this market? Hosiery buyers say they had not yet seen a satisfactory acetate number. However, acetate full-fashioned is being commercially manufactured, and is obtainable from at least one mill. Actate producers still talk conservatively on the subject. They say developments have gone beyond the laboratory stage, but do not regard as fully on a commercial basis. Many in the trade believe that acetate full-fashioned will be on the market before Christmas. Retailers said they would welcome it, once the strength problem was solved, because it has better fitting properties than viscose.

Broadly speaking, the attitude of rayon producers toward this new market is to work hard and say little. They are cooperating with knitters in striving for maximum quality. Both groups believe in the final acceptance of rayon full-fashioned. The producers, however, emphasize that even now there is no rayon yarn available which has been developed specifically for hosiery.

PRODUCTION: Rayon hosiery respresents about 80% of the current output of full-fashioned mills, but the volume is considerably below mill capacity. Manufacturers attribute this limiting of production to two factors: (a) shortage of yarn, which some say, is acute; and (b) shortage of trained labor. The rayon allotment rule which puts sales on a pound-for-pound basis as against previous consumption of silk or Nylon, is declared by the knitters to have curtailed production, because rayon's yield in hosiery fabric is considerably below that of silk or Nylon. Knitters are recognizing, to an increasing degree, how important it is that rayon full-fashioned be made at least 2 in. shorter than is the standard for silks or Nylons to allow for elongation in the rayon.

PRICES: Rayon full-fashioned is retailing at prices considerably above what either knitters or store buyers expected at this stage of the transition. This is attributed to several causes: First, available Nylon and silk hosiery is limited largely to standard lengths, and customers seeking short or long lengths are thus compelled to buy rayons; second, rayons are available in a fuller color range than Nylons or silks; third, the quality of rayon full-fashioned is steadily improving.

Exclusive top-price New York stores report that rayons represent 25% of their present volume, and retail at 89c to $1.35. Rayon prices in medium-price stores run from 79c to $1.25. In the lowest-brackets, most of the rayon business is in the 79c range, with $1.15 as the top price. In the stores shopped


How to Help Your STOCKINGS
YOUR RAYON STOCKINGS
Facts of immediate interest to every American woman
HOW TO GET THE MOST FROM YOUR RAYON STOCKINGS
1 Buy them wisely. Check foot and length measurements in relation to your own individual requirements. Proper size is extremely important in securing satisfactory wear.
2 Put them on carefully. Like all stockings of this type, they should be handled with care. Avoid runs, do not catch or snag them.
3 Wash after wearing. Rayon stockings, like all others, will give better service if washed as soon as possible after wearing. Use lukewarm water and mild soapsuds.
4 Wash carefully. Rayon has less strength
HOW TO GET THE MOST FROM YOUR RAYON STOCKINGS
1 Buy them wisely. Check foot and length measurements, in relation to your own individual requirements. Proper size is extremely important in securing satisfactory wear.
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How to get the most from your RAYON STOCKINGS

by the writer, there was no rayon full-fashioned hosiery retailing below 79c. This is significant, hosiery buyers pointed out, as 59c was formerly the standard price for low-end silk full-fashioned.

PROMOTION: Used broadly, as covering the principal aspects of consumer relations, "promotion" represents a major phase of rayon's introduction to the new market. In this phase, more perhaps than in any other, will be determined the final success of rayon in full-fashioned hosiery. This promotion has three main aspects: First, selling-points of the new hosiery; second, education of sales personnel and consumer; and third, looking beyond the war.

Selling-points of the new hosiery: The first selling-point, of course, is self-evident, namely that rayon is now, or soon will be, virtually the only stocking available in full-fashioned. Cotton now represents about 9% of this market. Exigencies of war have eliminated other competitors. Retailers are not yet inclined to credit rayon full-fashioned with any substantial selling-points of its own, though they are ready and eager to admit that the quality of such hosiery is steadily improving. A check-up on returns indicates that surprisingly few women bring back rayon full-fashioned. The more skeptical buyers refuse to give rayon credit for the low rate of returns, claiming that customers don't expect rayons to be as satisfactory as silks or Nylons, and therefore do not return them if defects develop.

Education of sales personnel and consumer: The job being done in educating the retail sales personnel and the consumer on rayon full-fashioned is both vigorous and effective.

Inaugurated some six months ago, the "information campaign" as it might be called, has brought into play all modern methods of publicity—radio, fashion shows, contests, advertising. Outside wrappers, and other packaging, carry printed matter that helps to tell the story. Probably the most important educational unit is the insert that goes to the customer with nearly every pair of rayon full-fashioned. These little printed notes vary widely in format or appearance, but their message is substantially the same: a few simple sentences on the characteristics of rayon full-fashioned and how to care for it to insure maximum wearing satisfaction. Most stores use inserts supplied by rayon producers or mills; sometimes a retail store will print its own, with its own name, but that is an exception.

Retail buyers differ considerably regarding the attitude of the sales personnel toward rayon full-fashioned. Some stores find the girls strongly anti-rayon in their thinking, which hurts sales even though the girls try to overcome their prejudices. One method of meeting this problem is to supply the girls with rayon hosiery which they are instructed to wear for a specified time. This gives the girls a realistic attitude toward rayon, so that they can sell it without either overclaim or understatement. In other stores, however, girls were spontaneously enthusiastic about the new rayons, giving them preference even over silk or Nylon; these sales people stress that rayon hosiery is less inclined to snag than either silk or Nylon.

Retailers who have made careful study of consumer reaction to rayon full-fashioned, have concluded that the most important note in the educational job is dryness. In every way they can, stores hammer home the message that rayon hosiery must be dried slowly and carefully and not worn until dry. Overnight drying is not enough; 24 hours or more is essential.

The experience of the retailers contains valuable pointers for mills and producers. For example, the hosiery buyer of a foremost New York store disliked mention of the "rayon-is-weakest-when-wet" thought in promotional literature. He discarded that negative approach, and substituted the slogan "rayon fits better when very dry". Now he says this has proved far more satisfactory. Some retailers have found that rayon hosiery should be washed *before the first wearing*, since customers who washed the new hosiery before wearing, got more satisfactory service.

"Make it brief" seems to be the keynote of the retail approach on selling rayon full-fashioned; and to that most stores add "make it non-technical". Complicated information about rayon, even elementary data on the processes, is strictly taboo either in sales literature and in verbal presentation by counter personnel.

The concept of "rayon for glamor, cottons for utility" is more print than reality, so far, according to stores' sales. However, retailers agree that the limited production which is in prospect for rayon full-fashioned will restrict the amount of sheer hosiery available, and may stimulate the "heavy hose for heavy clothes" fashion.

The bare leg and painted leg fad, which achieved some vogue this summer, is not taken seriously either by mills or by stores. Merchandise managers of hosiery firms who have watched this trend say that the fashion for painted legs is nothing more than a passing fancy, and they do not view it as a threatened deterrent to sales.

Looking beyond the war, the attitude of retailers and indeed of knitters too, may be summarized as follows: They are doing a competent job of meeting an emergency by skillfully making and intelligently promoting the best full-fashioned with the best yarn available. Stores are still dubious regarding the permanence of rayon full-fashioned. Whether rayon will retain its wartime popularity after the war depends on its own merits. Continued improvement making for better appearance and increased wearing quality—that is the one thing the consumer really cares about. Certainly, the post-war release of high-tenacity rayon yarn now restricted to war purposes, will be an important step to that end.

* * *

ILLUSTRATIONS at bottom of spread show a few circulars and inserts issued by American Viscose Corp. and other companies to educate the consumer: at right is Pegreen Fitzgerald who does a radio bit for Gotham Hosiery Co. and a portion of her script.

Washing and Drying Instructions For Rayon Stockings
1. WASH AFTER EACH WEARING—
and lukewarm water.
2. HANDLE CAREFULLY WHEN WET—
gently in suds: don't rub, ring or twist.
3. TO
ST
BE
W
SUGG
To mai
on hai
FUTURAY★
TRADE MARK
The Rayon Stocking of the Future
by Gotham Gold Stripe
CARE OF RAYON HOSE
To obtain maximum satisfaction, rayon hose should be handled carefully. Wash in lukewarm water and mild soap flakes. Be sure to remove your rings which may catch your hose. Do not wring, stretch or rub the wet stockings. RAYON STOCKINGS GENERALLY TAKE LONGER TO DRY THAN SILK HOSE. To hasten drying, remove excess moisture by rolling in a towel. Then hang over wide rod or dry flat. Never dry them in sunlight or near a radiator and don't use clothespins. RAYON IS NOT AS STRONG WHEN WET AS WHEN DRY. Be sure
yon. Please take
g and handling.
wet as when dry
your fingers do
a fabric.
water and mild
gently through
ch or rub. Rinse
rm water.
a silk or nylon.
stockings in a
oisture—unroll
dry towel. Do
ear heat, such
MUTUAL
WOR

Promote Cottons for Cold Weather

Cotton-Textile Institute and National Cotton Council stage style show

Photos Courtesy Cotton-Textile Institute

1 Black cotton velveteen double-duty evening coat lined with multi-colored specially woven cotton in a homespun-like texture. Worn on the light side, it makes a perfect foil for dark clothes.

2 Designer Tina Leser uses warm cotton felt in a finger-tip tuxedo jacket over cozy cotton velveteen lounging pajamas to achieve a novel effect. There are hand-painted Christmas card scenes on the pockets.

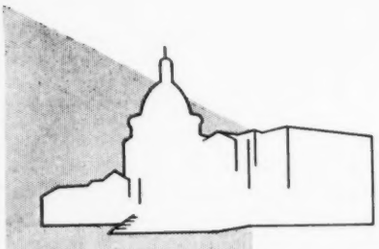
3 Denim graduates out of work clothes and into a smart college suit or street costume for fall and winter 1942. Bound in red and box-pleated for skirt fullness, it makes a sturdy costume for wartime.

4 Quilting does its bit toward making lightweight percale warm enough for winter wear, and a bright-colored plaid contributes the gay note in cheering up the younger set.

5 A hollow-cut velveteen tailored suit is the suit of a hundred uses for the college girl or for sophisticated city wear. It's comfortable spring and fall without a coat; under a fleece or fur coat when it's really cold. Wide-wale corduroys are similarly in vogue for suits or dresses. The hat is of cotton chenille.

WLB Orders Cotton Wage Increase

Grants 7½ c. rise in 40 New England and 11 Southern mills to correct "inequalities"



McGRAW-HILL WASHINGTON BUREAU

PAUL WOOTON, *Chief Correspondent*
Blaine Stubblefield — Robert Colborn
Carter Field — Irvin Foos — M. G Maury
Dorsey Adams — George E Doying, Jr
J. C Stark — Richard K LaBan
Malcolm Hobbs — Hunter Snead
E. H Martin — Malcolm Burton

By BLAINE STUBBLEFIELD

THE NATIONAL WAR LABOR BOARD has unanimously ordered a 7½¢-an-hour wage increase for 60,000 cotton textile workers in 40 New England mills and 11 Southern mills. CIO and AFL textile unions had asked for an increase of 10¢ per hour in Northern mills and 20¢ per hour in Southern mills. Three cases—the CIO's union in the North and its union in the South, and the AFL's union in the North—were certified to the Board. Three mediation panels studied the facts in the cases, and made recommendations to the 12-man War Labor Board, whose vice-chairman, Dr. George W. Taylor, wrote the opinion.

Three issues were put before the Board by the panel members: one was the question whether textile wages are sufficient for "minimum budgets of health and decency"; another was the old question of the wage differential between the North and the South; and the third was the alleged inequality between wages paid by the 51 mills subject to the order and other textile mills and other industries.

The Board saw fit to rule only on the last of these three propositions. That is, it ordered the wage increase, the same in both North and South, to meet recent voluntary increases by many mills not included in these cases, and to bring textile wages more nearly in line with the average 82¢ per hour paid in all manufacturing industries.

It is explained in the opinion that some companies gave voluntary increases primarily to hold their employees. Some of the southern mills in these cases, the statement says, found it necessary to increase their wages, after the Board had taken jurisdiction but before issuance of its ruling, to hold employees and prevent shutdowns.

But while there was no actual ruling on the question of the standard of living, Dr. Taylor stated that four or five members of the mediation panels had recommended a general wage increase on the ground that the average 49.6¢ in the South and 57.5¢ in the North cannot provide minimum living standards. Said Taylor, "These cases were, in fact, characterized by a virtual unanimity of opinion held by all interested parties that significant wage increases should be provided."

YOU'LL FIND THE EXPLANATION why the Board did not pass on the standard of living and differential questions in the text of the Board's opinion. Concerning the standard of living it says in effect that no good argument can be made, from the panel record, for giving the same overall increase to all members of the textile group, who earn from 40 to 70¢ per hour, and who are in greatly differing circumstances relative to their ability to maintain "health and decency."

Concerning the North-South wage differential, the Board seems to by-pass the issue as a political hot potato that should not be tossed around in the wartime.

Needless to say, great pressure was brought upon the Board by both CIO and AFL unions and the northern manufacturers to wipe out the differential by fiat at this time. Northern mill men willingly accepted the increases but they wanted to abolish the differential by placing a bigger increase on the South. But the Board refused, and its reasons, as stated, add up as follows:

1. The North and the South have recently specialized on different fabrics and any attempt to set a differential so that earnings would be comparable would be impossible.

2. The North-South differential is a long-standing relationship, and the implication is that that is some justification for its continuation. The four labor members of the Board concurred in the Board's decision but dissented in this **premise.**

DR. GEORGE W. TAYLOR, professor of industry, University of Pennsylvania, who is vice-chairman of the National War Labor Board and who wrote NWLB's opinion on the textile cases.

3. There is no reason for making, under war conditions, a differential adjustment which would be used in post-war competition, thereby increasing the wages of 80% of the industry's employees who work in the South by an amount greater than necessary to stabilize wages in that area.

4. Action on the differential, says Dr. Taylor, "would be an utter disregard of the responsibility of the Board to stabilize wage rates in conformance with the national stabilization program."

The order of the Board provides for credits against the 7½¢ increase for those mills which had already granted voluntary increases, and the mills to be credited are specifically named. The 7½¢ increase is made retroactive to the 15th of June, 1942.

Many witnesses before the Board objected to the wage increase. They said the profit margin is small and that this increased cost will put the industry into a period of declining activity. The authorized increase will just about double the wage rates prevailing in

1939, and the resulting additional cost of cotton goods will curtail civilian buying, it was contended. It was said too, that the OPA cotton cloth price ceilings might have to be adjusted on account of the Labor Board's wage award.

But the Board's opinion was: "The (textile) wages, however, are still not up to the level which will permit the industry to fulfill the heavy tasks which have been assigned as its part in the war. The industry's war responsibilities have been accompanied by an increased financial ability to pay wages more nearly in line with other manufacturing industries."

Textile News from Washington

Foreign Procurement—Military textile goods are being purchased where possible directly from the Allied Nations in which U. S. soldiers are serving, the War Department has announced. The plan is to release cargo space for combat materials.

The Quartermaster General's office in Washington told TEXTILE WORLD: "No raw material is being shipped anywhere overseas for manufacture by foreign facilities into any clothing or equipage item used by U. S. soldiers."

Purchases are made locally wherever such transactions do not affect the needs of the populace. As might be expected, the largest purchases to date have been made in Australia, under the supervision of the Quartermaster Corps. Most of the Army clothing being bought there is of wool, although some few cotton items are on the list, which includes overcoats, trousers, shirts, sweaters, socks, woolen underwear, cotton khaki shirts, etc.

The extent of the shift of uniform production to Australia and England depends on the growth of our fighting forces abroad, but it is conceivable that the replacement outfitting may reach a figure of considerable size. Initial outfitting will continue at home.

Big Wool Goods Orders Soon—You will recall that not long ago the wool growers were urging the Government to buy their entire clip. They felt that they were holding the bag for their only inevitable customer.

The War Production Board did not comply, but it did compromise. Late in August the Quartermaster Corps., authorized by WPB, announced it would soon place contracts for woolen cloth that will use 150,000,000 lb. of domestic wool, or most of the 1942 clip.

UI Wants a Hearing—President Roy Cheney, of the Underwear Institute, has filed a brief with the Department of Labor, Division of Public Contracts, requesting a public hearing be held regarding the plan of the division to extend the 40c wage rate under the Walsh-Healy Act covering the Knitted and Men's Woven Underwear and Commercial Knitting Industry to include related products, such as knitted outerwear, and also to change title to conform to the new definition. Mr. Cheney says that such drastic changes justify a public hearing since competitive and manufacturing conditions will be greatly affected. He feels that minimum wages have been determined already in most of the industries involved. There is no adequate reason, he believes, for including other products, such as knitted outerwear, nor is there need to change the name.

For Your Note Book—Interstate Commerce Commission is investigating rail and water freight rates on wool and mohair between the U. S. points. . . . For the first time in history, some soldiers will wear galluses; their packs are getting so heavy they can't trust belts. The suspenders will test at 450 pounds!! . . . There is now a serious shortage of long staple cotton and WPB has taken control of imports and Commodity Credit Corp. is offering premium prices for it . . . Board of Economic Warfare insists on shipping machinery, including textile machinery, to United Nations, in the national interest, while some textile men object; they say it will do more good at home. . . . QM has developed a new white camouflage mitten, to be worn over regular hand covering to blend with snow in the artics.

T. H. McKENNEY, vice-president and general manager of American Yarn & Processing Co., Mt. Holly, N. C., who has been transferred from chief of the Cotton Section of the Textile Clothing & Leather Branch of WPB, to be Special Assistant to Frank Walton, deputy chief of the branch.

Allowance on Cotton Covered Cotton—Cotton producers will receive a 7 lb. gross weight allowance for all cotton marketed from now on in bales covered with cotton fabric patterns, the Department of Agriculture announced on Aug. 10. Cotton patterns (coverings) are an alternate for the traditional jute wrapping. This arrangement, which is expected to bring about a marked increase in the use of cotton bale patterns, was worked out through the cooperative efforts of all major cotton trade organizations and the cotton branch of the Agricultural Marketing Administration. It marks the culmination of years of intensive action by State and Federal agents to get buyers and handlers of cotton to make allowances for the additional cotton in a bale wrapped with that fabric. The jute wrapper and ties on a 500-lb. bale of cotton weigh from 21 to 22 lb. Cotton patterns and ties on the same size bale weigh about 14 lb.

Priority Ratings can no longer be issued by procurement officers of the Army and Navy, according to orders from WPB chairman Donald Nelson. This means that textile manufacturers can no longer ask their contracting officers, on orders from the Armed Services, for rating changes. The contracting officers can, however, ask the local officers of WPB to make the change, which they may or may not do. Since most manufacturers are now under the Production Requirements Plan, this restriction by Nelson makes only limited difference. Applicants under PRP could use only the ratings already on their orders on their books, anyway. If a manufacturer wants to get a piece of capital equipment (not supplies) under a PD-1, he can appeal to his contracting officer, who can merely make suggestions to WPB.

Repair Parts can now be obtained by textile mill operators under the Production Requirements Plan. Machinery Limitations Order L-83 has been amended to make this possible. Textile manufacturers are under PRP automatically if they use over $5000 worth of metal per month, or if they have voluntarily made application on form PD-25. The operator can apply for any parts rated A-9 or higher.

Addenda to Textile War Manual

PRICE CEILINGS AND AMENDMENTS BY OPA

Bedspreads—Rayon bedspread fabrics were removed from the scope of the rayon gray goods schedule and placed under the regulation applying to woven decorative fabrics by two amendments issued simultaneously by OPA on Aug. 25. Through Amendment No. 2 to MPR No. 39 (Woven Decorative Fabrics), the coverage of that regulation is extended to include rayon bedspread fabrics, which are yarn-dyed and loom-finished. This action is due to the fact that such rayon bedspread fabrics are essentially the same as woven decorative fabrics covered by Regulation No. 39. This type of rayon bedspreads had been subject to the provisions of RPS No. 23 as amended (Rayon Gray Goods). Amendment No. 3 to Schedule 23 effects the transfer to Regulation No. 39.

Civilian Apparel Fabrics—On July 30, OPA established a provision for adjustable pricing contracts and for granting permission to sellers of woolen and worsted civilian apparel fabrics who have filed petitions for adjustment with OPA to make deliveries of goods at prices which may later be adjusted in accordance with the disposition of the section. Action was through Amendment No. 3 to MPR No. 163 (Woolen and Worsted Civilian Apparel Fabrics). It applies to situations where a petition for amendment or for adjustment of exception requires extended consideration.

Cotton Duck—Because prices governing cotton duck are determined by different OPA regulations, depending upon the type of mill making the material and whether the fabric is for military or civilian use, OPA on July 30 outlined the proper existing pricing methods to be used under the varying circumstances. For the bulk of cotton duck produced by mills normally making this type of fabric, specific dollars-and-cents per yard ceiling prices are supplied through Amendment No. 3 to MPR No. 118 (Cotton Products) in Section 1400.118 (d) (8).

Cotton Linters—Maximum prices set by OPA for chemical grade cotton linters are established in MPR No. 191, effective Aug. 1, which applies to sales by brokers or middlemen as well as by producers. Cents-per-pound price ceilings which sellers of the nation's "free" supply of domestic cotton linters, representing about 75,000 bales of the 1941 crop not allocated to the chemical industry, were authorized Aug. 1 by OPA. MPR No. 190 (Free Cotton Linters) applies to approximately 20% of the 1941 crop which may be sold for stuffing.

Denims, Chambrays, Coverts—Maximum prices for denims, chambrays, and coverts were reduced ¼ to ¾¢ per yard as part of a general "roll-back" of prices in the work clothing field announced Aug. 21 by OPA. Lower prices for these types of cotton goods are provided through Amendment No. 5 to RPS No. 35 (Carded Gray and Colored Yarn Goods) at the same time that other types of fabrics manufactured into garments for workers are reduced through an amendment to Regulation 127 (Finished Piece Goods) and Regulation 208 is issued to establish maximum prices for staple work-clothing.

Processed Wool Waste—Through Amendment No. 2 to Regulation 123 (Raw and Processed Wool Waste Materials), OPA on Aug. 17 made clear that ceiling prices established by MPR 123 apply to all blends of "processed wool waste materials" including blends composed in part of wool and other fibers in addition to the wool waste materials.

Processing Piece Goods—Reporting requirements of MPR No. 128 (Processing Piece Goods) specifically covering new or changed processes for finishing piece goods were provided through Amendment No. 2 issued August 11 by OPA. Under the terms of the amendment, effective August 26, maximum prices for any new or substantially modified finishing process developed after April 15, shall be reported fully to OPA. Such reports are due on or before Sept. 10, or on or before the tenth day of the month following establishment of a charge for a new or changed service, whichever is later.

Rayon Knit Goods—Manufacturers, converters, and jobbers of rayon knit goods were reminded Aug. 21 by OPA that sales of these products come under the scope of GMPR and that pricing methods of the general regulation for these fabrics must be observed. Proper action against violators may be taken if unwarranted practices persist.

Textile Piece Goods—To put a stop to a recently adopted practice by some sellers of adding local transportation charges to maximum prices for finished textile piece goods, OPA issued on Aug. 4 a ruling on the meaning of the phase "f.o.b. seller's point of shipment" as used in MPR No. 127 (Finished Piece Goods).

Towels—Two errors contained in Amendment No. 7 to MPR No. 118 (Cotton Products) were corrected July 28 by OPA through the issuance of Amendment No. 8. The previous amendment, established a maximum price of $1.73 per dozen for huck towels conforming to Federal Specification DDD-T-531. Name woven or colored stripe huck towels were included in the amendment by mistake. Towels covered by the specification are "without woven name or colored stripe." Provision is now made for a premium of 5¢ per dozen which may be charged for stamping if required by the specification. This had been inadvertently omitted. Amendment No. 8 took effect on July 28. Huck and crash towels were placed under specific manufacturers' ceiling prices by OPA on Aug. 18 under MPR 118, virtually completing the work of providing dollars-and-cents prices for the cotton-textiles covered by this order. Amendment No. 10 covers the fifth group to be removed from the pricing formula originally established and provided with specific prices instead. Approximately 700 prices are contained in the amendment.

Wool & Worsted—Manufacturers of woolen and worsted apparel fabrics may not add the "cost of selling" to their maximum prices for new fabrics calculated under MPR No. 163 since

READERS who may desire to consult the original releases from OPA and WPB, which bear particularly on their businesses and which are summarized on these pages, may obtain such copies, as long as the supply lasts, by writing to TEXTILE WORLD's Washington office (at National Press Bldg., Washington, D. C.) specifying the title and number of the order.

Addenda to Textile War Manual

the ceiling formula provided has covered this item of cost. OPA said on Aug. 25.

Wool Yarns—Through Amendment No. 7 to RPS No. 58, as amended, effective Aug. 22, OPA made several changes in methods for pricing imported wool yarns, British Wool Control wools, woolen "sales" yarns and yarns spun from blends of wool and mohair.

PRIORITIES AND ALLOCATIONS—AMENDMENTS BY WPB

Agave—General Preference Order M-84 has been amended to make six changes in existing controls on processing and marketing of this fiber.

Cotton Fabrics—Adequate supplies of cotton fabrics for the manufacture of industrial cloth or tape, surgical dressings and laminated phenolic products are expected to be made available as a result of action taken today by WPB. Order M-134 has been amended, and three schedules issued which assign a preference rating of A-2 to orders placed for fabrics suitable for manufacture into industrial tape, surgical dressings and laminated phenolic products.

Cotton & Rayon—Cotton and rayon finishers were advised Aug. 17 by WPB at a meeting of the industry advisory committee representing that industry, that a proposed WPB order affecting printed and discharge patterns as well as plain shades will not be issued for the present.

Cotton Yarn, Combed—Manufacturers have until Nov. 2, in which to begin earmarking large parts of their production for use by the armed services, under Amendment No. 1 to M-155 issued by WPB on Aug. 3. The original order required earmarking to begin not later than June 29. Extension is granted to give mills that do not have Government contracts more time in which to obtain them. Mills already having Government contracts for the earmarked quantity of combed yarn are not affected by the amendment, since they are required to fill the contracts regardless. The amendment does not change the percentages of combed yarn to be earmarked for the armed forces. They remain at 40% of the mill's production of medium combed yarn and 65% of coarse, both effective Nov. 2.

Dyestuffs—the Dyestuffs Section of WPB on Aug. 25 called the attention of dyestuffs users to the fact that Conservation Order M-103, as amended, limits the quantities of certain anthraquinone vat dyes that may be used in the third quarter as well as amounts that may be sold and delivered.

Jute—The DSC will be sole purchasing agent for all raw jute imported into this country after Sept. 1, under Conservation Order M-70 as amended, announced WPB on Aug. 1. Only such jute as is rejected by DSC, because of damage in shipment, may be sold by importers to processors for civilian use.

Manila Hemp—Industries whose raw materials are Manila hemp, jute, and similar vegetable fibers may replenish their war-depleted stock with yucca, a domestic substitute, harvested from public lands, under regulations issued by Secretary of the Interior, Harold L. Ickes.

Men's Work Clothes—Men's work clothing will have fewer pockets, fewer buttons and buckles, and no unnecessary yardage as a result of an order, L-181, issued Aug. 8 by WPB. Manufacturers are assured adequate supplies of fabrics by WPB order and schedules issued Aug. 22. The order, M-207, authorizes the DGO to issue schedules allocating looms or yardages, assigning preference ratings, fixing quotas, regulating inventories and otherwise controlling cotton textiles used in the manufacture of work apparel.

Mohair—is released completely from the restrictions of the Wool Conservation Order, M-73 as amended, in Amendment No. 1 issued Aug. 14 by DGO. Previously, mohair came under the restrictions applicable to new wool except that its use for civilians was on a more liberal basis than the finer grades of new wool. The amendment removes mohair from the category of new wool and permits its unrestricted civilian use. The release of mohair should not be interpreted as an indication that WPB will ease restrictions on civilian use of new wool as provided in M-73 as amended. The amendment in no way affects operations under the Men's and Boys' Clothing Order, M-73-a is an entirely separate order from M-73 and has not been amended.

Rayon—An order providing for the allocation of viscose rayon staple fiber and acetate rayon staple fiber to wool manufacturers was issued July 27 by the DGO, to be handled under a separate order, M-176, issued July 27. Under this order, rayon producers will be required to set aside each month, out of production not necessary to fill rated orders, such quantity of viscose rayon fiber and acetate rayon fiber as the DGO of WPB shall designate. Each wool manufacturer will be entitled to an amount of the rayon thus set aside, based on a percentage of the amount of new wool he processed during the first half of 1941. The percentage will be set each month by the DGO. Any manufacturer not accepting all or part of his quota, such rayon may be distributed by WPB to other wool manufacturers who have indicated in their purchase orders that they would like to have additional quantities of rayon. A wool manufacturer must place his order for rayon not later than the 15th day of the second month before the month in which delivery is to be made. No wool manufacturer may sell unprocessed rayon to any person other than the manufacturer from whom he bought it. None may be used for floor coverings, drapery or upholstery fabrics.

Rubber Thread—Conservation Order M-124 was amended July 30 by WPB by inserting the word "surgical" before "supports for abdomen, back and breast." The purpose of the amendment is to restrict the use of rubber thread in foundation garments to those designated as surgical garments.

Wool Fabrics—A number of changes in listings of articles on Lists I, II and III of General Imports Order M-63 were made Aug. 18 by the DGO which took effect Aug. 21.

Wools—Wools finer than grade 44s will continue to be exempted from the General Imports Order M-63, under an extension of M-63-b, issued Aug. 17 by the DGO. The extension continues until midnight Sept. 30, 1942.

Wool Worsted—Knitters will be given priorities assistance in obtaining additional quantities of all-wool worsted-spun yarn for manufacture into carriage robes and garments for infants up to three years of age, it was announced Aug. 14 by WPB.

Help for the American Wool Grower

Pressure group gets a QM order that new procurements be 100% domestic

WOOL GROWERS brought considerable pressure to bear in Washington recently to induce the Government to take over the domestic wool clip. The War Production Board, which had the last say in the matter, rejected the purchase plan but instead persuaded the Army Quartermaster to place orders in the near future for large quantities of wool cloth which would take the remainder of the domestic clip off the market and so stabilize the situation, giving the growers a good price for their wool and clearing the market of any domestic surplus which might tend to depress the price and so discourage growers in their 1943 production.

According to a Colorado news source wool growers have lately been congratulated on gaining prices which were described as 141% of parity. The low-price lament seems to focus in Washington.

Presumably as a result of the Washington agreement was the report from the Philadelphia QM early in August that, for all substantial wool-goods procurements from now on till further notice, manufacturers are required to use 100% domestic wool. This is a return to the early 1941 limitation which had in the interim been liberalized, as the war effort gained in seriousness, to admit use of foreign wool. Now that army goods must be made solely of domestic wool, and fixed and relatively small limits are put on wool for civilian use, it is apparent that a substantial amount of foreign wool now in this country cannot be put to any use at all. Also, incentive to import wool is removed. Men close to the Army situation believe total quantities of Army goods lately called for cannot be obtained on the 100% domestic basis as there is not enough of this politically favored staple to meet the requirements.

The goods being called for include 6,000,000 all-wool Army blankets and 35,000,000 yd. of wool fabrics. It is understood that deliveries will fill in from end of present contracts to June 1943. In one quarter it is estimated that the orders will require 150,000,000 lb. of wool.

A hearing, at which the matter of the Government's buying the domestic clip was taken up, was held by the Special Wool Committee of the Senate, chairmaned by Senator H. H. Schwartz. Frank Walton, deputy chief of the Textile, Clothing & Leather Branch of WPB, urged instead of a purchase a loan plan at the ceiling price of $1.18.

J. Byron Wilson, chairman of the legislative committee of the National Association of Wool Growers, charged WPB with evasion and stalling. He said that the only time the wool grower has gotten what his wool was worth was in the First World War when the Government took over the domestic wool clip through the Quartermaster Corps.

WITNESSES AT THE HEARING, in addition to Mr. Walton and Mr. Wilson, included Lawrence Myers, chief, General Crops Section, Commodity Credit Corp., who spoke for the Department of Agriculture. Others present at the hearing were Senators Thomas, of Idaho; O'Mahoney, of Wyoming; Gurney, of Colorado, and Hayden, of Arizona; Harry E. Reed, chief, Livestock Division, Agricultural Marketing Administration, and James Coon, wool expert for that organization; Kenneth Marriner, chief of Wool Section, WPB, and Roger Gillis, counsel for the committee.

The Dept. of Agriculture felt that it was the agency which should be designated as the sole purchaser of wool for the duration and for one year thereafter, and that to bring this about it would be necessary for WPB to freeze domestic wool in the hands of growers by issuing an M order. WPB on the other hand foresaw a highly complicated problem in handling all the ramifications of freezing and distribution.

FRANK WALTON placed in the record his letter to Grover B. Hill, Assistant Secretary of Agriculture, which well states the principles on which Mr. Walton later acted in rejecting the purchase plan and in reaching the plan of advancing of Army contracts on the 100% domestic wool basis. The letter follows:

"Dear Mr. Hill:

"This will acknowledge receipt on July 17, 1942, of your proposal for handling the domestic wool situation.

"As we pointed out in our letter of June 30, the WPB is interested in production and we believe that steps should be taken to encourage wool producers to keep production at present levels and to expand it wherever possible. In this letter we also suggested that you put a floor under the wool market for the protection of this production and we stated that the question of price should be decided by you and other Governmental agencies. As suggested in our letter, we have no objection to your adopting the most feasible plan, whether a loan or an 'offer to purchase,' to create this floor. We understand you have authority to proceed in this way.

"Your letter and proposal suggest that Commodity Credit Corporation become the sole purchaser of the entire wool clip. To set up such a plan it is necessary for the WPB to issue a mandatory freezing order for all domestic wool, which would freeze wool in the hands of the growers, whether large or small, and take from them the right to sell their wool to any purchaser they desire. Also, there is a very complicated problem of enforcement of an order of this type which would cover probably 500,000 producers and dealers, as well as a big and highly technical problem of allocation of the wool later on.

"We do not believe it is in the interest of national defense or in the public interest, at this time, to issue an order which would make it a crime for growers, producers, or pullers to sell their wool to anyone except the Government. Nor can we believe that the growers or Congress would desire such drastic regulation at this time.

"We do feel, as previously stated, that any domestic wool taken over by the Government under any plan should be put into consumption as fast as possible, so as not to have a stock on hand of domestic wool hanging over the market.

"We feel, and we are sure you agree, that something should be done promptly in regard to this matter. We will be glad to discuss any angle of the situation with you at your earliest convenience."

New Coated Finish

Utilizes vinyl acetal plastic in place of rubber to waterproof Army fabrics

WATERPROOFING OF FABRICS is now being carried out by Hodgman Rubber Co., Framingham, Mass., by a process in which a vinyl acetal plastic is used as a substitute for rubber. This process is being employed at present for waterproofing Army raincoatings, gas-protective fabrics, life-preserver jacketing, and water-bag fabrics. Many other military items are awaiting final action by the Government and still others are in the experimental stage. The particular plastic employed is Saflex, a product which has been made for several years by Monsanto Chemical Co. for use in producing safety glass. The method for plasticizing and compounding Saflex for application to fabrics was developed by Joseph L. Haas, technical director and fabrics superintendent of Hodgman Rubber Co., in conjunction with research chemists of Monsanto's Plastics Division. The process is being made available to other manufacturers in order that the development can be utilized as widely as possible in furthering the war effort.

The process is carried at the Hodgman Rubber Co. with the same equipment and same general technique used for rubber. It appears probable, however, that modifications of the process could be developed which would permit the plastic to be applied on other types of textile processing equipment.

The first work with the vinyl acetal plastics by Hodgman dates back before the war, but at that time the heavy demands of the safety glass industry made these materials relatively scarce. When the war cut off natural rubber supplies and made the usual substitutes almost equally hard to get, the process Mr. Haas had developed was brought to the commercial stage.

By this process, Saflex is transformed from a thermoplastic to a thermo-setting material, with markedly increased resistance to solvents and greatly decreased water absorption. As a result, the Saflex-coated fabrics meet most of the tests applied to rubber, oil, and pyroxylin coatings, and in some properties surpass the materials around which the tests were written. For example, in Government tests the raincoat material did not crack at −60° C. nor adhere to itself at 120° C.

Used on Army raincoatings, the new process saves more than 1¾ lb. of crude rubber per coat; proportionately greater savings result from its use in heavier fabrics, such as the hospital sheeting and gas-protective cloth. At the same time, since it is possible to use a lighter base fabric with Saflex, the new Army raincoats will weigh 2 lb. less than the present rubberized coats, making a soldier's pack that much easier to carry.

The plastic lends itself to the coating of fabric by either of the two conventional "rubberizing" methods—spreading or calendering. The chief steps in the process for waterproofing raincoatings are shown in the accompanying photographs taken in the Hodgman plant.

Photos courtesy Monsanto Chemical Co.

Fig. 1. Properly plasticized Saflex received at the Hodgman Rubber Co. plant in fiber drums is sliced into sections for the mixing mill; at this stage the plastic is snow white and has the texture of head cheese.

Fig. 2. Slices of Saflex are ground between the heated rolls of this mixing mill, the other ingredients are added and worked in, and the plastic is removed from the rolls in thin, rubber-like sheets.

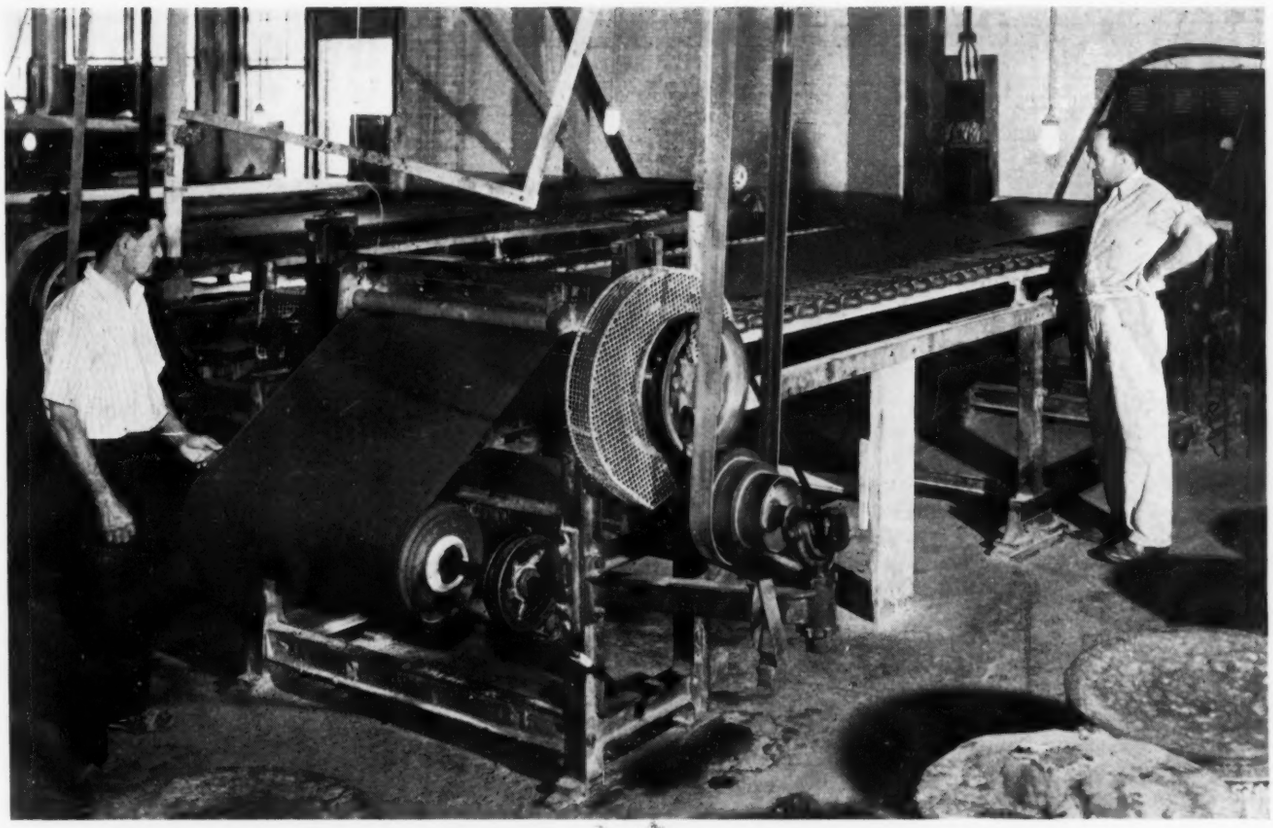


Fig. 3. The plastic is mixed with solvents to form a "cement" which is applied to the fabric on a spreader; the solvents evaporate as the freshly coated fabric moves on rollers over the steam table which is a part of the unit.

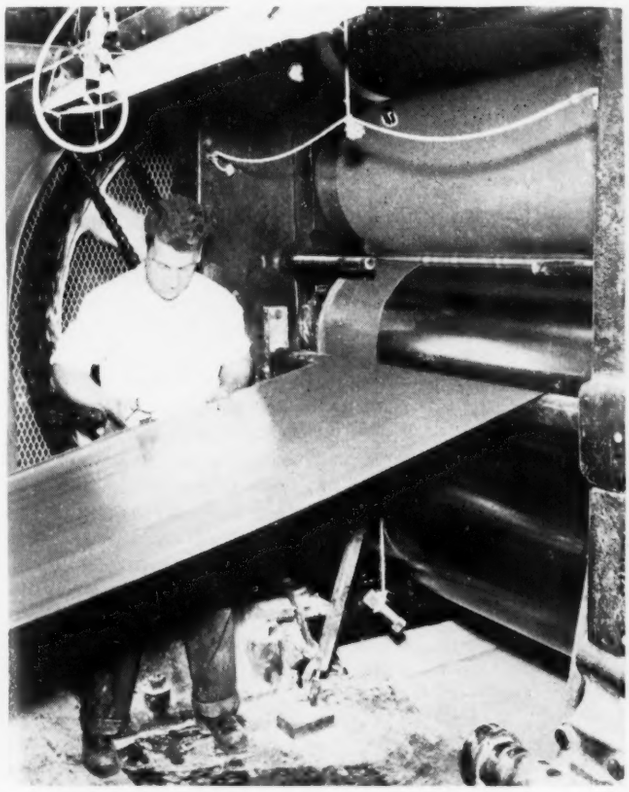


Fig. 4. After a thin binder coat has been applied on a spreader, a thicker coating is applied to Army overcoatings by joining together sheets of Saflex and the cloth on a calender.

Fig. 5. The raincoats are cut and fabricated from the coated cloth, hung inside-out on racks, and cured for 2 hr. at a temperature which reaches 260° F. in a large oven holding 80 coats at a time.

Utility Cloths Mean Money's Worth

English experience shows that fabrics of sub-standard quality will pass out

By AN AUTHORITATIVE OBSERVER

RESTRICTIONS placed on the variety of cloths that can be manufactured in wartime England, are likely to leave a permanent imprint, not only on textile marketing, but also on textile manufacturing. Cloth of sub-standard quality is going to be as much a thing of the past in the dry goods world as food of sub-standard purity is, today, in the grocery business.

By its latest regulations, the Board of Trade, (roughly comparable to the Department of Commerce here) guarantees that every customer in England when in future he buys his or her clothes will receive full money value and never any less. Therefore the English clothing merchant, henceforth, cannot build up a profitable business, by skimping on the quality of his goods, but only by attracting more trade as a result of giving to the customer more than the price demands. This will benefit the low cost, efficient fabric manufacturer.

When "point" rationing of clothes was introduced in June 1941, it was heralded as an improvement over the quantity method. Briefly, the point system allowed each person to have 66 clothing coupons for a full year. Each article of clothing had a certain value as measured by the number of coupons. Thus for a man, a suit would be equivalent to 26 coupons, four handkerchiefs would be 2 coupons, two pairs of socks would be 6 coupons, and similarly for every single article of clothing, except hats which, for some reason, were free.

Under this system, there is no restriction on the quantity of articles a person can buy so long as he keeps within the total coupon limit. Thus a man might buy his stock of four handkerchiefs 33 times over, or his stock of two pairs of socks 11 times, but after he had hoarded his 132 handkerchiefs, or alternatively his 22 pairs of socks he could not buy another stitch of clothing for a whole year.

SHOPPING VALUES changed, because clothes might have to last for a very long time before the rationing scheme permitted others to be bought to replace them. The cheaper clothes within reach of the average buyer were not worth their coupons. The better quality clothes, having more durability, came to be more sought after and their price soared. Often, persons in the lower income brackets, when they proceeded to reach after the higher priced clothes because they thought they were getting better value, found that they were paying the higher prices for goods marked up from the inferior quality group.

"The English middle-class woman is likely to lose some of the frowsiness of which . . . she has been accused" —above is one of the many utility garment designs

Hence the Government which, in the interests of concentrating industry, was already reducing the number of types of cloth that could be manufactured, decided to make the cloth, manufactured according to Government specifications, the basis of a scheme for the protection of the ultimate purchaser of the cloth after made into garments.

In future this so-called "utility cloth" with a specifically known quality will be released to only about 2,000 designated firms out of about 25,000 clothing manufacturers. They will make garments out of it, the ultimate selling price of which to the public will be strictly related to the known quality of material entering into every part of their manufacture, the lining and the buttons no less than the cloth itself. Thus: women's overcoats made with utility cloth, Government Code No. 204 (woolen tweed between 14 and 18 oz. wt. per linear yard) with lining costing 36 c., can be sold by the retailer only for a maximum price of $13.42. An overcoat with a similar quality cloth but with a lining costing 40 c. a yard, can be sold for a maximum of $14.13. One made with cloth No. 219 (woolen and worsted mixture cloth, wt. between 10 and 13 oz.) with lining costing 48 c. a yard, can be sold for $16.73—and similarly for every article of wear. (Conversion is $4.00 to the £.)

Henceforth therefore the British buying public, however ignorant of the art of judging material, will be assured of getting exactly the quality of clothing its money is supposed to buy and this applies to every component of the garment. The designated firm will stamp all its goods with the label CC41 which will be to the clothes that the Englishman or Englishwoman buys what the hallmark is to sterling silver: the Government's guarantee of a specified quality. There will be no ersatz clothing in England!

An outstanding feature of the scheme is that the Government is determined that utility clothes, although produced in the most economical way possible in terms of material and labor, will not mean a rigid standardization in dress. The Englishman will be as well turned out as he has traditionally been, while the English middle-class woman is likely to lose some of the frowsiness of which in the past, not altogether unfairly, she has been accused. The Government has enlisted the services of the best London stylists to design the clothes that will be made from utility cloths, and the art of the Court designer, which hitherto was only available at a high price to the aristocrats of Belgravia, will now be equally within reach of the little people of England.

The competition of the factories turning out these utility clothes will undoubtedly be felt after the war in those markets abroad in which American ready-to-wear houses were finding more and more outlets for American textiles each year before the present war.

Scrap from Textile Mills

Union-Buffalo Mills salvage program is easily adaptable to many other plants

The National Salvage Program inaugurated by WPB was announced in the August issue of TEXTILE WORLD. The necessity for scrap was pointed out, and methods of setting up a salvage collection program in textile mills were outlined. The present article discusses the actual experiences of a southern textile plant and offers many suggestions that should be valuable to any mill setting up a salvage program.

Some sources of scrap in textile mills listed by the American Industries Salvage Committee are as follows: Baling wire, loom parts, broken picker shoes, obsolete and old looms, cams of all types, gears from textile machinery, obsolete bale-breakers, cards, spinning frames, line-shafting, electric motors, drive belts, broken parts and obsolete equipment found in mill power plants, rubber squeeze rolls and aprons, and all material of iron, steel, brass, copper, tin, lead, and rubber.

"GET IN THE SCRAP." was the order from Industrial Salvage Section, Conservation Division, WPB. And Union-Buffalo Mills Co., Union, S. C., complied.

Approximately 275,000 lb. of scrap recently released to regular junk dealers will soon find its way into guns, tanks, airplanes, and other essential war materials. According to J. D. Jones, general superintendent of Union-Buffalo Mills, approximately 6,000 lb. of the scrap was of copper and brass, both of which are scarce materials. The mill's scrap was gone over, and equipment and parts were segregated that are most likely to be used, such as a small assortment of pulleys, gears, shaft hangers, bearings, etc. The other scrap was then shipped to the junk dealer.

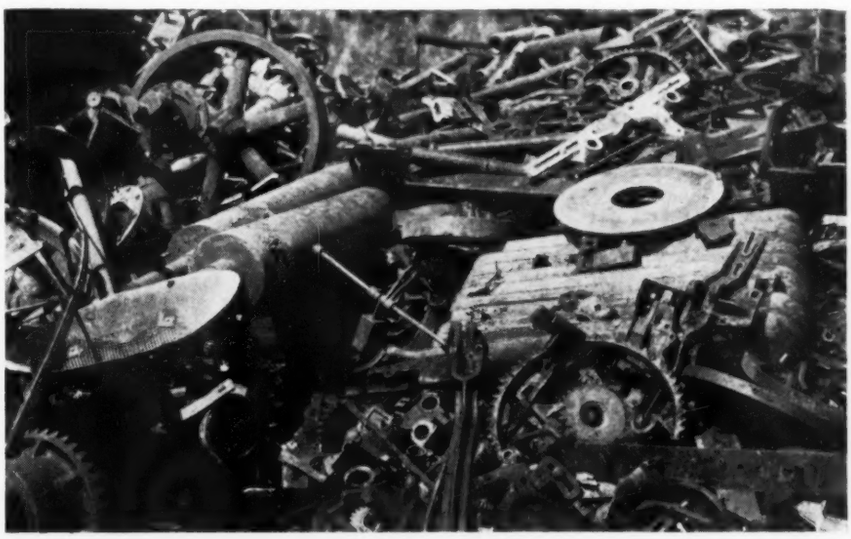
Ten or twenty years ago very little scrap was sold, because it seemed possible that it might be of some use in the future. Economies necessary as a result of the depression naturally forced many mills to hold and accumulate scrap, but with our country urgently in need of such materials, most of this accumulation could be released.

Supply and stock room men may be surprised to learn that they have obsolete parts that have remained forgotten for years in their bins. These parts were bought for machines that have since been removed from production, and should now be thrown out with the old machine or at the time of a scrap clean-up. Some mills cling to every piece of obsolete equipment and scrap, whereas others go to the other extreme by junking and selling everything not in use. "Either extreme seems undesirable," says Mr. Jones, "although it cannot be said that complete and constant clean-up doesn't pay in increased morale. At least, it is a very desirable practice as far as the scrap collections are concerned."

Danger of idle equipment through delays in securing supplies tempts many mills to hold all sorts of scrap for possible emergency repair. Actually, under present conditions, a few parts that may be needed for temporary repair should be picked out and held, and the remainder scrapped. To illustrate how vital a scrap part can be if well segregated, a fixer stated that a certain machine must stand idle until a bearing could be secured. A plain babbit bearing had originally been used in the machine, and an old babbit bearing taken from the scrap pile permitted the machine to be operated without a prolonged delay. Usually, only a limited number of scrap parts should be stocked.

Obsolete machinery and auxiliary equipment held for possible emergency use represents a large part of the scrap now in plant storage. Management, once it realizes the seriousness of scrap shortages, will surely release every possible piece of equipment to scrap dealers. Machines reserved in place in any department that cannot meet modern production requirements are candidates for the scrap pile.

Executives of Union-Buffalo believe that responsibility for the collection and the handling of scrap must be placed properly. Such responsibility for collection and the handling of scrap, when placed with one person not too heavily occupied with other duties, permits close follow-up of scrap accumulation and disposal. This person should prepare inventories of scrap on hand and machines and parts than can be scrapped. By studying these inventories, supervisors, master mechanics, and purchasing agents can select materials that can be used for repair, and thus avoid ordering many new parts made of strategic materials. The rest of these parts and machines may be junked. Many large textile mills have salvage departments for handling old machinery and scrap to the best advantage. Small manufacturing plants, that cannot justify a salvage department, will find it to their advantage to organize their scrap collection along the lines suggested above.



Obsolete equipment and scrap of this type discarded by textile mills will help construct ships, tanks, and airplanes for our armed forces.

Sewing Operations Chart

Indicates basic types of machines for producing various Army and Navy items

SEWING OPERATIONS CHART

Specification Nos.	Item	LOCKSTITCH Fed. Spec. Stitch Type 301				CHAINSTITCH Double Lock 2-Th'd Stitch Type 401					OVERLOCK Type 501 and Up						
		Single Needle	Off the Arm	Bar Tack	Button Hole	2 Needle	Multi-Needle	Bar-Tack	Button Sew	Button Hole	2 Thread	3 Thread		Flat Lock	Cover Seamer	Collarette	Arm and Neck
8-111 27B7C	Blankets	■										■					
73C3a	Caps, Watch										■						
PQD-74 8-47	Drawers	■	■			5/8" 1"	2"		■	■		■		■		■	
55J2H	Jerseys														■		
DDD P35-1	Pillow Cases	■															
DDD S-281	Sheets	■															
37T2a	Trunks	■			■	■									■		
JJU513	Undershirts			■										■		■	■
6-233B	Undershirts											■		60B		■	■
8-41	Undershirts							■				■		■		■	
JJW531	Underwear			■									504	60B		■	

* Cuff Sew, Chain Stitch, One-Thread, No. 605

TWO CHARTS compiled primarily to assist WPB engineers and Procurement Officers in giving assistance to manufacturers in the needle industry have been issued recently by the WPB Pooling Section, New York State. One chart shows the basic sewing machine types used for producing Army items; the other, machines for producing Navy items. Certain of the data presented in the two charts are applicable in textile mills producing blankets, sheets, and knit wear on Government contracts. Accordingly, we have condensed that information into the accompanying single chart.

The chart shows the various items commonly manufactured into finished products by textile mills, and sewing machine classes as generally specified in Government specifications, such as 301 (Lockstitch), 401 (Chainstitch), etc., which are sub-divided into sewing machine types. Each manufacturer should be in a position to break down his sewing machine facilities by classes and types as shown on this chart. The shaded squares show sewing machine types required for any particular item. Numerals designate the distance between needles of a two-needle machine where over ¼ in.

The chart should be used as a guide only. At all times the Government specifications for types of seams and other details should be followed.

Estimation of Copper in Mildewproofed Fabrics

By B. J. BROWN*

IN OUR PLANT, we have been compelled to carry out, since the beginning of hostilities, some 10,000 estimations of copper in mildewproofed textiles. Upon examination of the method proposed in the April issue of TEXTILE WORLD, we found it to be more lengthy and tedious than the iodometric method we devised and which has been accepted by the Government chemists as a standard method. Since time, accuracy, and costs are important factors governing the selection of a particular test for the estimation of copper, we are sure that our contemporaries in America will be interested in learning the details of our method. The test procedure is as follows:

A 10-gram sample of the webbing is weighed out in a porcelain crucible and gently heated over a bunsen flame until the material ignites. It is then allowed to burn until combusted, without the aid of the bunsen burner. If the heating is too great in this initial stage, there is a danger of some copper being lost. When no further burning will take place, the crucible is heated over the bunsen—at first gently and then strongly for an hour. Alternatively, the crucible may be heated in an electric muffle furnace for an hour at 600°C. If this temperature is exceeded to any extent, some copper is lost by absorption of copper oxide by the porcelain or silica crucible. Use of a furnace has the advantage that there is no danger of drafts causing a loss of ash.

Some 4 to 5 ml. of boiled concentrated nitric acid is then added to the crucible and allowed to stand for half an hour. It is then washed into a 250-ml. beaker, and the crucible thoroughly washed out with water (or acid, if necessary), the washings being added to the beaker. The solution is then made up to 100 ml. with water and is boiled down to a small bulk.

Next 0.5 grams of crystalline urea is added, and the solution boiled for a few minutes longer. Then caustic soda (1N) solution is added until a slight precipitate forms. Then sulphuric acid (4N) is added from a graduated pipette until the solution clarifies, and 1 ml. further is added. Then 10 ml. of a solution containing 100 gm. of postassium thiocyanate and 10 gm. of postassium iodide per liter is added.

The mixture is then titrated immediately with N/10 sodium thiosulphate solution, 1 ml. of freshly-made starch solution being added toward the end of the titration. The slight purplish tinge in the iodide at the end point of this method (which makes the appearance of the starch coloration less sharp) may be corrected by the addition of one drop of silver nitrate (N/10) solution.

% copper in the sample taken = titer × 0.00636 × F × 10, assuming *F* is the factor of the thiosulphate solution.

* Thomas A. French & Sons Ltd., Manchester, England.

Garment Men "Study 'Bout War"

Army well represented at southern manufacturers' convention in Atlanta

THE ARMY was well represented at the opening session of the 10th Annual Convention of the Southern Garment Manufacturers Association held at the Biltmore Hotel, Atlanta, Aug. 24 to 26. Cooperation with the armed forces was the theme of President William J. Vereen's opening address. The entire assembly stood to a toast and salute led by Mr. Vereen to our boys who are fighting our battles; to the commander-in-chief; to Donald Nelson and the WPB, to the hard-hitting Quartermaster Corps and to all the agencies supporting our war effort.

How well the industry has supported this vital need was further brought out by Col. Robt. C. Brady, commanding officer of the Philadelphia Quartermaster Corps depot, who presented a graphic picture of the efforts and accomplishments of his department. Other visitors and speakers from Washington included: Col. H. M. Manderback; Maj. Robt. J. Dillon; Maj. Albert E. Dennis; Maj. Jas. E. Baker; Maj. Jas. E. Frank, and Lieut. John B. Gaither. Also from Washington came representatives and speakers from WPB, OPA and the Department of Labor.

Manufacturers attending the convention came from 23 States, some 400 registering to bring the total attendance to a new high level.

The decentralization of the garment industry and its growing importance in the industrial development of the South is evident in the steady expansion experienced by this association over the last decade. Mr. Vereen said that, "the garment industry of this country has done a magnificant and amazing job. Today the problem is solved in so far as supplying our armed forces with uniforms and other garments, is concerned." Every effort of the garment manufacturers will be behind the Government until the war is won, said Mr. Vereen. In the program thus far, the southern manufacturers have established a proud record, and the enthusiasm of the convention assures the Government of the sincere cooperation of every member.

The Atlanta Quartermaster Procurement Planning District maintained a complete exhibit during the convention of garments immediately required for the armed forces. This exhibit attracted the attention of the entire assembly. Garments on display included: Officers' uniforms, ski-troop equipment, parachutists' garments, uniforms for the butchers and bakers, capes for the nurses, and work garments of various types.

(Left to right) W. Gordon McKelvey, counsel; George H. Barnes, vice-president; C. S. Pond, secretary-treasurer; Shem P. Cunningham, vice-president; William J. Vereen, president; all reelected by the Southern Garment Manufacturers Association

Besides the models of products used by the armed forces, there were many displays of all kinds of fabrics to be used in making civilian garments in 1943. Sportswear for men will be much more generally used next year, according to the manufacturers. This sportswear will not be confined strictly to sports, but will probably invade all lines of business, several officials predict. Leading manufacturers showed cotton and mixed-fiber goods of a variety of styles—in a minimum of colors.

Machinery, accessory, supply houses contributed largely to the interest of the 67 exhibits staged on the fifth and sixth floors of the building.

Lending color to the style show, six of Atlanta's beautiful girls modeled what the best dressed working woman will wear for the coming year. Because of the increasing number of women workers in industry, many plants have laid down safety requirements for the garb to be used by women workers. "There must be no loose belts, loose sleeves, or large pockets to catch in machinery," said R. N. Dowling, representative of Cluett-Peabody, who presented these models. Morale is stimulated and efficiency increased, he added, when the girls are in uniform. This gives them a feeling that they are a part of the fighting forces.

A telegram to Leon Henderson protesting the immediate execution of RB Order 208, MPR, known as the roll-back, was forwarded by the convention and signed by 300 manufacturers from 15 States. They requested time to familiarize themselves with the provisions of this order and to make proper adjustments. The southern manufacturers feel that concentration of industry, which involves re-location of plants as well as the diversion of orders from their natural channels, is not justified, unless the industry fails to meet the Government requirements.

The entertainment features for the convention were ably handled by the Atlanta Textile Club; J. Harry McGinty, Jr., of J. P. Stevens & Co., Inc., president.

Over his vehement protest, William J. Vereen, of Moultrie, Ga., was reelected president and given an ovation. Other officers continuing to serve another year are: Geo. H. Barnes and Shem P. Cunningham, vice-presidents, and C. S. Pond, secretary-treasurer.

Keep Your Waste Under Control

Methods for collection and disposal which will reduce woolen-mill costs

By WILLIS G. HOLMAN

CONTROL OF WASTE of textile raw materials, regardless of what the raw material or finished product may be, is a timely subject that is more deserving of thought today than has been true for some time. This is true because most raw materials are not only higher in price, but they are beginning to become scarce and difficult to procure.

This subject can be considered from four angles: (1) proper collection of waste, (2) disposition of waste accumulated, (3) setting of waste standards, (4) methods that assist in waste reduction.

The individual mill must give due consideration to the types of waste which it wishes to grade and concentrate, either for the mill's own use or for the waste market. The exact manner in which waste should be collected, and the exact types of waste which should be sorted and graded, will naturally vary with each mill, depending upon the type of raw material it uses. Below are listed the types of waste often found in a woolen mill and which it is wise to grade and maintain:

1. *Refuse from under waste dusters.* This is the lowest type waste and seldom is of value. Such material comprises mostly of dust and dirt, and it sometimes makes a good fertilizer.

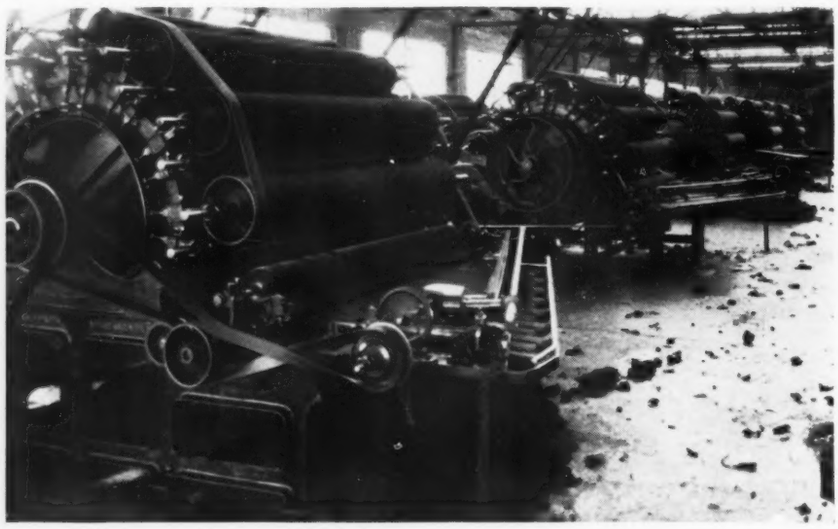
2. *Wool burr-picker waste.* Burr-picker waste may be carbonized and reused in cheap grades of cloth.

3. *Floor sweepings.* These are obtained from all parts of the mill, chiefly lint, etc., and are baled and sold for roofing stock.

4. *Flocks.* Waste from fulling mills, nappers, sheers, etc., are saved, separated and sold to harness manufacturers for stuffing collars, and the like, particularly for horse collars and other leather products. There is a good market for this type of material at present.

5. *Card strips.* Non-spinnable card waste is prepared for a new market which has just developed with the mattress trade. Because of the extreme shortage in cotton linters, mattress manufacturers are finding it extremely difficult to procure stuffing material.

6. *Dusted, mixed, manipulated mill waste.* This grade represents spinnable fiber culled from general mill waste, waste from mixes that contain vegetable fiber, and is so mixed that it is impractical to grade for color. Such material is baled and saved for cheap piece-dye fabrics, meltons, and, in some instances, a cheap line of men's or boys' wear suitings.



Systematic control of waste collection will prevent waste accumulations about card rooms, eliminating conditions shown.

7. *Graded, manipulated mill waste.* This grade represents spinnable fiber the same as above, but which has been graded for color. Waste should be sorted for color, separating blues, blacks, browns, greens, etc., and these colors stored in bins until the stock is either reused in other mixes or baled and stored for future use.

8. *Head ends.* These represent ends cut from pieces by the finishing room examiners and are graded in the same manner for color as other mill manipulated waste. The head ends are then run through a rag picker and the picked stock is put with its proper color of graded waste, ready for reuse at the first opportunity.

9. *Waste from all-wool mixes.* This waste is kept separate in a similar manner to be used in cloths where the value will be greater than if the stock had been allowed to be mixed with waste that had been manipulated with cotton or rayon.

WASTE COLLECTION, if carried out as outlined above, does require experienced management and a large number of bins, but is worthwhile. Keeping all waste accumulations of the various types mentioned in bins enables various key men responsible and interested in waste to see the exact condition of waste and to see it being accumulated.

One man should be held responsible for the collection, concentration, and grading of waste. It should be the duty of this person to check the accumulation of waste from each department regularly; see that it is brought to the waste house; and then to see that it is properly graded for color and type, baled, and stored at the designated point. This person should be further instructed to call any unusual waste accumulations to the attention of the superintendent immediately.

Before making any definite decision regarding disposition of waste accumulation, it is necessary for a mill to consider this point from a merchandising angle and ask itself the following questions: (1) Are we receiving a better price for our waste in the form of waste? (2) Or, are we better off to merchandise our waste in a specially manipulated cloth?

The writer will not attempt to state

Items Which Should Be Checked Constantly to Insure Proper Control of Waste

1. Droppings from bales and sheets as they are moved about or stored.
2. Scattering of material as machines are doffed; for example, around the dye kettle and dryer; this waste should be consolidated to eliminate scattering and mixing with a neighboring lot.
3. Hopper grids should be installed under the back feed of every card.
4. Grids should be installed on first and second breaker of every card.
5. Breast guides should be set at a proper distance to keep large amounts of waste from accumulating at the ends of workers and strippers on first and second breaker.
6. Carrier rolls, or tumblers, should be set so as to eliminate necessary droppings beneath the cards.
7. Guides in front of feed rolls on first finisher card should be set to keep waste from accumulating at the end of workers and strippings.
8. Fancy covers should be used on first and second breakers. There is much argument over this procedure for various types of stocks; however the writer does not believe that mills running on all type of stocks will find fancy covers satisfactory on the first and second breakers.
9. Fancies should be properly set in order to minimize card fly.
10. Strippers should be properly ground and set so as to clean the workers.
11. Cylinder speeds should be set to a maximum number of r.p.m. consistent with production to be expected as compared with waste. In other words, no set speed can be stated, as it will be entirely dependent on the type of stock being run. However, proper consideration of both waste and production should be considered when determining cylinder speeds.
12. Card clothing must be kept well ground and in good condition, particularly the metallic wire on the breast cylinder.
13. Emulsion must be evenly distributed and in the proper quantities. Also, the emulsion must be of such a nature that it will not tend to dry out on large lots that require several days to run out. Most mineral oils possess this weakness.
14. Humidity. In the card room proper relative humidity is helpful in the running of stock in carding and spinning and also reduces waste.
15. Use the longest and largest spool possible and insist that the roving be wound until the spool is of a diameter of approximately 15 in. In spinning, the spinners should be required to use the maximum amount of tension weight as this eliminates soft bobbins. Insist upon the largest package possible.
16. All clean waste in the spinning should be picked up and returned to the card room for re-use in the same blend.
17. Every effort should be made to reduce ends down at the mule to a minimum.
18. Warp dressing. Large packages are important. It is recommended that the largest possible spool be used, as this procedure reduces creeling time and hence reduces waste.
19. Prior to weaving there is one point of importance with regard to the rewinding of both warp and filling yarn. Some mills spin their filling yarn direct on mule bobbins for use in W-3 automatic looms. These looms have the side slip feeler, but do not control with any degree of uniformity the transfer of such bobbins. According to many mill men, it is absolutely impossible to build a uniform bunch on a mule and, based on this conclusion, filling should be rewound. With winders, the waste left on bobbins may be controlled at the transfer.

which policy is best, because there are variables which relate to the individual mill that may make the situation entirely different in one mill from another.

No system of waste control can be of maximum value unless the source of each type of waste is thoroughly understood and each department is given a fair objective to attain. Hence, waste standards are set in each department.

For example, through experience the percentage of waste normally obtained in a card room is known. Allocate to that department a waste percentage figure, and require the overseer to give an actual report covering his performance each week. In this way, he knows regularly whether or not he is making more or less waste than normally expected.

STANDARDS of any type, to be of value, must constantly be watched and revised in accordance with actual performances. Waste standards help to make overseers waste conscious, whereas before establishing standards their interest in waste might have been purely subconscious, as they were primarily interested in production and quality.

Education in methods of waste control produces results. In one mill, for example, waste standards were first set and a waste-control system developed. The executives were surprised to find that the various department heads had practically no knowledge as to the value of various materials. When the overseer of carding and spinning was first informed that the waste made in his card room alone actually amounted to a certain figure in dollars and cents per week, he was amazed at the magnitude of the item. This situation was true throughout the entire plant.

Another essential point is keeping waste at a minimum. Good-running work is essential, not only to obtain low costs, but also to minimize waste. Whenever a sample is run, the yarn is checked so as to learn all the facts concerning the fabric. Some mills make samples without knowing much of the fabric details, and not until after the sample has been sold do they begin to learn of the various problems and kinks that had been encountered. Because of numerous headaches and disastrous results caused by such procedure, a new type cloth should never be made without having it checked with the greatest of care.

Proper selection of raw material and good yarn construction, such as correct selection of twist and stretch, are necessary for good-running work. Such selection must be done only after properly considering the cloth characteristics and the question of running conditions, as both must dovetail if the lowest amount of waste is to be obtained.

A blend should never be laid down without giving specific instructions to cover the roving weight and the twist, allowing a reasonable tolerance for both. The boss carder and spinner are then able to devote their entire time and effort to production, quality, personnel, and machinery maintenance, which is a job in itself.

In the opinion of some mill men nothing makes for more spinning waste than to put too much stretch in the yarn. On the other hand, if not enough stretch is maintained, the yarn will not be beardy and lofty enough. Proper cooperation and consideration concerning this point is of extreme importance in considering waste reduction.

Items should be constantly watched from day to day, not only by the overseers, but by the superintendent and general manager, if waste is to be controlled, are listed in the accompanying table.

Regarding warp, cone wind on high-speed winders. When walking through a weave room, one frequently finds numerous loose ends tied over the back of looms and the warps looking in general very disorderly. Rewinding warps and running them on large-type spools from magazine creels will not only correct this condition and reduce warp waste considerably, but also will improve running conditions and reduce costs.

Card-Room Maintenance

Cleaning and scouring schedules for cotton carding and drawing equipment

By E. H. HELLIWELL

ADEQUATE CLEANING AND SCOURING schedules are a necessary and important part of every maintenance program. In addition to assisting in machine maintenance, they are an essential factor in maintaining quality control of product. A well cleaned machine produces more and of better quality.

Many of the imperfections in the finished cloth or yarn are directly traceable to poorly cleaned machines in the card room. Clearer waste, fly and oily waste in the finished yarn are but a few of the results caused by inadequate and poorly executed cleaning schedules. Consistently, good results from cleaning operations can not be expected until they are organized on a systematic basis with a definitely established program. Each employee's part in the program should be stated clearly and his cleaning duties made known to him.

A schedule for each operation should be posted and no deviation from the established procedure permitted. This system avoids confusion and uncertainty as to cleaning requirements and goes a long way towards assuring clean, good running machinery for producing first quality products.

Efficient tie-in between scouring and inspection makes certain that all machines are properly cleaned, in good repair, well lubricated and correctly adjusted. A number of cleaning schedules that have proved successful are given below.

[In subsequent articles, Mr. Helliwell will discuss lubrication schedules and machinery inspection.—Editor]

CLEANING AND SCOURING SCHEDULE

FEEDERS

Cleaning

Machine part or material		*Operator*
Apron shafts	Once per shift	Opener hand
Pulleys and gears	Once per shift	Opener hand
Front, side and backs	Once per shift	Opener hand

OPENERS

Cleaning

Machine part or material		*Operator*
Shafts and pulleys	Once per shift	Opener hand
Beaters	Twice per shift	Opener hand
Feed and draw rolls	Twice per shift	Opener hand
Cages	Twice per shift	Opener hand
Machine sides	Once per shift	Opener hand
Sweep	Twice per shift	Opener oiler

Waste Removal

Motes and fly	Twice per shift	Opener oiler
Cage waste	Twice per shift	Opener oiler
Drawer waste	Twice per shift	Opener oiler

Scouring

Apron shaft bearings	Every 6 months	Picker foreman
Feed and draw rolls	Every 6 months	Picker foreman
Cages	Every 6 months	Picker foreman

Inspection

Complete when scouring	Every 6 months	Second hand

Check all parts on inspection form. The same inspection data applies to feeders.

PICKERS

Cleaning

Machine part or material		*Operator*
Feed and draw rolls	Once per shift	Picker tender
Beaters and chambers	Once per shift	Picker tender
Cages and bonnets	Once per shift	Picker tender
Draft flues	Once per shift	Picker tender
Machine sides	Once per shift	Picker tender
Belts, pulleys, hangers	Twice per week	Picker oiler
Sweep	Twice per shift	Picker oiler

Waste Removal

Motes and fly	Twice per shift	Picker oiler
Drawer waste	Twice per shift	Picker oiler
Drop dust box	Four times shift	Picker oiler
Cage waste	Twice per shift	Picker tender

Scouring

Scoured complete	Every 6 months	Picker foreman
Overhaul evener	Every 6 months	Picker foreman
Take out feed, draw, calender rolls	Every 6 months	Picker foreman
Reverse beaters if dull	Every 6 months	Picker foreman
Remove fan covers, clean	Every 6 months	Picker foreman

Inspection

Complete inspection when scouring	6 months	Second hand

Check all parts on inspection form.

CLEANING AND SCOURING SCHEDULE (*Continued*)

CARDS

Cleaning

Machine part or material		*Operator*
Brush sides after stripping	Twice per shift	Card tender
Brush fronts and backs	Twice per shift	Card tender
Dust pan	Twice per shift	Card tender
Coiler	Twice per shift	Card tender
Pulleys and hangers	Twice per week	Card oiler
Belts	Once per week	Card grinder
Sweep	Twice per shift	Card tender

Waste Removal

Stripping cylinder and doffer	Twice per shift	Card tender
Licker and fly	Once per shift	Card tender
Top strips	Three times per shift	Card tender
Scavenger roll	Once per shift	Card tender
Calender and coiler clearer	Once per shift	Card tender

Clearer, strips, fly, sliver, lap waste and sweeps to be kept separate.

Scouring

Coiler and gears when grinding	Every 25 shifts	Card grinder
Bends and flat end when grinding	Every 25 shifts	Card grinder
Brushes when grinding	Every 25 shifts	Card grinder
All screens cleaned, repaired, re-set	Every 6 months	Head grinder
Clean, re-set backs, mote-knives, flats	Every 6 months	Head grinder
Comb boxes overhauled, cleaned	Once a year	Card grinder

Inspection

Complete inspection when scouring	Every 6 months	Second hand

Condition of cylinder, doffer, flats, and licker wire; test for level and alignment; check all parts on inspection form.

DRAWING

Cleaning

Machine part or material		*Operator*
Picker clearers, top and bottom	Every 2 hours	Draw tender
Brush clearers, top and bottom	Once a week	Draw tender
Wipe roller beams and stands	Twice a shift	Draw tender
Wipe tube plate	Twice a shift	Draw tender
Wipe backs, weights (on creel)	Once a shift	Draw tender
Clean calender rolls	Twice a shift	Draw tender
Clean long lower shaft	Once a shift	Draw tender
Clean spoons, bars, guides	Once a shift	Draw tender
Sweep	Twice a shift	Draw tender
Hangers, pulleys, shafting	Once a week	Shaft oiler
Belts	Once a week	Section man

DRAWING (*Continued*)

Waste Removal

Clearer, sliver, sweeps and oily waste to be kept separate.

Scouring

Complete with steel rolls out	3 months	Section man
Clean all gears and roll flutes	3 months	Section man
Grease ball bearing end bushings	3 months	Section man

Scour one breaker and one finisher frame each shift.

Inspection

Complete inspection when scouring	3 months	Second hand

Condition of rolls, check settings; test for level and alignment.

Check all parts on inspection form.

ROVING FRAMES

Cleaning

Machine part or material		*Operator*
Pick clearers	Every 2 hours	Frame tender
Pick flyers and tops (at doff)	Every doff	Frame tender
Clean back plate and bobbin rail (at doff)	Every doff	Frame tender
Clean clearer covers	Every doff	Frame tender
Clean backs	Once per shift	Frame tender
Clean spindles and rails	Once per shift	Frame tender
Clean roller beams	Once per shift	Frame tender
Clean front rolls	Once per shift	Frame tender
Clean middle and back rolls	Every two shifts	Frame tender
Clean creel steps and stands	Once a week	Frame tender
Clean compounds	Once a week	Frame tender
Clean shaft, hangers and pulleys	Once a week	Frame oiler
Clean belts	Once a week	Section hand
Sweep back alley	Twice per shift	Frame tender
Sweep front alley	Four times shift	Frame tender

Waste Removal

Sliver, roving, clearer, sweeps and oily waste to be kept separate.

Scouring

Complete with steel rolls	Every 6 months	Section hand

Bobbin and spindle shaft bearings cleaned and new grease added; ball bearing top rolls cleaned and oiled; all steel rolls, shafts, gears, stands cleaned thoroughly.

Inspection

Complete when scouring	Every 6 months	Second hand

Test level and alignment of roller beam, stands, bobbin rail.

Check all parts on inspection form.

Proposed Colorfastness Rules

Meet strong opposition by textile men on ground that they are impracticable

THE VALUE of the trade-practice rules relating to colorfastness of textiles proposed by the Federal Trade Commission was seriously questioned by textile men and representatives of the American Standards Association before, at, and since the hearing held Aug. 18 in Washington. Further strong opposition is expected to be at a second hearing scheduled to be held in New York as we go to press. Those criticizing the rules as proposed by the FTC state that they would interfere with the war effort, that they do not conform with accepted commercial practices, that the terminology for grading disregards words that have become familiar to the public, and that the tests are not practicable on all types of textiles. Supporting the rules were representatives of the OPA and of consumer groups.

An example of the nomenclature criticized is the method proposed in Rule 6 for marking and disclosing color-fastness to light. According to thsi rule, textiles which will withstand the light test prescribed in Section X of Commercial Standard CS59-41 to the extent of a minimum of 160 hours without showing any appreciable change in color may be designated in any of the following ways: "Grade A-160 Colorfastness to Light," "Grade A-160 Fastness to Light," "Grade A-160 Fastness to Sunlight," "Grade A-160 Sunfastness," "Grade A-160 Lightfastness," "Sunfast Grade A-160," "Lightfast Grade A-160," or "Fast to Light Grade A-160."

Textiles withstanding the light test for a minimum of 80 hours may be designated "Grade A-80 Colorfastness to Light," etc.; those withstanding a minimum of 40 hours maybe designated "Grade B Colorfastness to Light," etc.; those withstanding 20 hours, "Grade C Colorfastness to Light," etc.; those withstanding 10 hours, "Grade D Colorfastness to Light;" and those which will not withstand a minimum of 10 hours shall be designated as "Unsatisfactory Colorfastness to Light," "Will Fade When Exposed to Light," or "Poor Colorfastness in Light."

OBJECTIONS to the nomenclature of Grades A, B, C, and D, as expressing different degrees of value were filed by Dr. Louis A. Olney, director of research of the American Association of Textile Chemists & Colorists. In his brief, Dr. Olney stated in part: "We believe that colored textile materials including shirtings, women's house dresses, tropical worsted suitings, sportswear, and women's wear in general constitute the largest portion of the colored merchandise sold. This class of materials will not, for the most part, withstand 40 hours in the Fade-Ometer. It is a fact that if you go beyond this point, you immediately make it impossible for any textile manufacturer or finisher to put out anything like a complete line of fabrics which could be labeled to indicate that they would be wholly satisfactory for the purpose for which they were designed.

"Furthermore, I am not exaggerating when I say that 90% of all satisfactory merchandise, as far as coloring is concerned, would not attain 80 hours of Fade-Ometer fastness. Should this 80 hours be accepted as Grade A minimum instead of 40 hours, we believe that it would be extremely unfair to textile manufacturers and finishers, and, furthermore, would have a decided detrimental effect, as far as the consumer is concerned."

Representing the American Standards Association, Jules Labarthe, Jr., stated that the proposed rules are so greatly at variance with those suggested by his association that technicians should not be asked to take time out from the war effort at this time to help reshape t' em.

Belief that the proposed rules are not workable or practicable as regards the cotton thread industry was expressed by David Snyder, executive director of the Cotton Thread Institute, Inc. This opinion was corroborated by John B. Clark, of Clark Thread Co. Mr. Clark pointed out that household threads are produced in over 400 colors, and that it is impossible for a thread manufacturer to procure at any price dyes that would meet all the tests in all the seven classifications specified in the rules. "Such dyes," he said, "do not exist." Accordingly, he objects to the rules for the following reasons: (1) they are not suitable for household threads, (2) it would be impossible to mark sewing and handicraft threads for household uses as required by the proposed rules, (3) it would be impossible to offer sewing and handicraft threads in a complete lines of colors which could be marked Grade A under the proposed rules, (4) application of the proposed rules to the marking of sewing and handicraft threads would result in deception, and (5) the proposed invalidation of valuable trademarks which are not misleading is not authorized by the statute.

Among those who criticized the section on colorfastness to washing were J. T. Halberstadt, representing Procter & Gamble Co.; and Ephraim Freedman, speaking on behalf of the New York Dry Goods Association. Mr. Halberstadt pointed out that the same tests are specified for rayons and silks as for cottons and linens, which is contrary to trade practice. Mr. Freedman stated that whereas rules which would provide consumers with a guide to colorfastness would be a distinct contribution, those proposed need clarification. For example, the fact that the terms "washable," "tubbable," or "launderable" are permissible only for fabrics that pass the Grade A test would deprive consumers of the right to know that most fabrics on the market are washable.

VARIOUS MODIFICATIONS in the rules were advocated by George P. Fulton, representing the National Association of Dyers & Cleaners; Harold Miller, of Sears, Roebuck & Co.; and Major Frank Steadman of the Philadelphia Quartermaster Depot, speaking unofficially. Briefs setting forth criticisms of the rules and suggestions concerning them are being prepared for presentation this month by the National Retail Dry Goods Association, the National Association of Finishers of Textile Fabrics, and the Textile Fabrics Association.

Siding with Dexter Keezer, of the Consumers' Division of OPA, in advocating blanket approval of the FTC rules are only such eminent "textile authorities" as Miss Margaret Dana, writer on consumer subjects; Mrs. Esther Cole Franklin, of the American Association of University Women; and Harold M. Fleicher, of the Pennsylvania Laundry Owners Association and the Pennsylvania Association of Cleaners & Dyers.

THIS IS SYNTHETIC-FIBERS' first war. In the last world war, they were non-belligerents, in the form of soluble neckties and shapeless sweaters.

Out of that war, the synthetic-fiber industry was born, however. Our new chemical industry, possibly the only real black-ink we got from that tragedy, gave the impetus to rayon, as the successor to "artificial silk," and eventually led to Nylon, Vinyon, Cordura, Tenesco, Aralac, Fortisan, and many other new synthetics. From about 1920 to date, the march of those synthetics has been one of the greatest industrial revolutions of all time. From "to date" on, the march will achieve a tempo which not even this writer, with his oft-asserted belief in the inevitability of a completely synthetic age, can grasp.

THE ONE BASIC REASON for the march of synthetic fibers to date, and the incalculable march to come, is their versatility. They have no limitations of climate, or soil, or picking mechanisms, or natural deterioration. The only limitation they have is that of man's imagination—and, so long as we keep the true research attitude alive, that is not a restriction, but a passport to the sky as a limit.

In this war, synthetics are **Versatile for Victory.** That is the theme of this, TEXTILE WORLD's 18th Annual Synthetic Fiber Number.

Versatile for Victory! What that means to the war effort and to the future of the textile industry!

It means these things: Synthetics are pinch-hitting for silk in several vital military uses; are pinch-hitting for silk in the hard-stricken hosiery field; are pinch-hitting for cotton in truck and airplane tires; are supplementing wool in civilian fabrics. In addition, they are playing their own role, in countless capacities, as textile fibers in their own right.

It means, specifically, that synthetics can be "tailored" to meet any reasonable requirement, whether military or civilian; to supply any reasonable combination of strength, appearance and utility; and to combine with this remarkable versatility an equally remarkable and apparently paradoxical, uniformity once the pattern for any one job is set.

BUT THIS VERSATILITY means far more than these immediate accomplishments. It means the death-signal for all textile-manufacturing and textile-supply companies, and individuals, who in turn are not versatile enough to adjust themselves to the new synthetic era.

After this war, the march of synthetics will be invincible. It can be a sign of defeat for those who get in its way, or a sign of victory for those who utilize it as a stepping-stone to progress.

Versatile for Victory is this year's battle-cry of the synthetics.

Douglas G. Woolf

EIGHTEENTH ANNUAL SYNTHETIC FIBER SECTION

How Much Fiber—and for What?

An attempt to estimate the role synthetics can play on war and home fronts

Synthetics

Versatile for Victory

By DOUGLAS G. WOOLF

(With statistics by WINN W. CHASE)

A SEARCH for a pound of coffee got us into the mood to write this article. We had planned to write it before we left for a vacation on Cape Cod, but other things intervened. We are glad now they did: first, because when we got back we found that our associate, Winn W. Chase, had done all the statistical spade-work on it; and, second, because of that pound of coffee.

It happened this way: When we arrived at the Cape with our nine-year old boy in advance of the rest of the family, we started out in the unusual (to us) role of doing the family shopping. As we went down our list in the Stop and Shop store, we came to the item: coffee. Billy (that's the nine-year old) and this writer pushed our perambulator up and down all the aisles of the store but couldn't find the coffee shelf. Finally we went to headquarters—the cashier—for advice. And we found that there just wasn't any coffee; that a certain number of pounds came in on certain mornings but were soon gobbled up by the early birds.

Well, it got to be a game. At first, we didn't play it so well. We don't get up early on vacations, and by the time Billy and this writer biked to town in the morning, the early birds had been there first. Now, it happens that we in this particular family are not coffee addicts. We can take it or leave it alone—and often we do leave it alone for days on end. But when we can't get coffee, and when other people beat us to it, then the honor of the family is at stake. So, finally one morning, we got to town while there were still a few pounds left—and we bought one pound. And that was the best coffee we ever drank.

We got to thinking about it. Not so many years ago, we heard of the burning and scuttling of countless tons of coffee in South America, just to bolster up the depressed market price. We imagine there are today countless tons of coffee there waiting for shipping. We imagine there are countless tons of it in warehouses in this country. But some are ear-marked for military use; some just wait for transportation; and the rest get to market.

To us, on the Cape, this over-all statistical position of coffee meant nothing. The only thing that mattered, in so far as that one item coffee was concerned, was the one pound that we finally got for home consumption.

AND SO, from this homely experience, we were better able to tackle the problem of the supply and demand of textile fibers generally, and synthetic fibers specifically. Because there was a close analogy. Not so many years ago, we were plowing up every third row of cotton; a little later we were paying farmers not to grow it.

Today, we are counting our fiber resources like misers, trying to figure out how we can spread the supply to take care of the apparently insatiable demand.

And yet, as in the case of coffee, it is not a question of the over-all supply. It is a question of what fibers can be processed, on available machinery, to produce the fabrics needed, first, for military use; second, for essential civilian and industrial uses; and, third, for civilian use. It comes down, in the last analysis, to the pound of fiber the Smith Mill can count on, just as it came down to the pound of coffee the Woolf family could finally secure.

That brings us to Mr. Chase's statistics. Parenthetically, Mr. Chase is a technical editor—in fact, *the* technical editor of TEXTILE WORLD—and when a technical editor turns statistician, he does a thorough job of it. We have in front of us, at this writing, 20-odd pages of tabular material. Our job—which Mr. Chase gleefully (in fact, almost santanically) turned over to us—is to tell our readers what it all means.

WELL, IN THE FIRST PLACE, the main index in fibers, just as in coffee, is consumption. And so we start with textile-fiber consumption. And, to get a "normal" base on which to peg our figuring, we use 1939—the last "normal" year before the start of the national defense program and, of course, before Pearl Harbor. (Please don't ask us to defend 1939 as a "normal" year in a world that has known no normality, nor even normalcy, since 1914; it just happens that 1939 is a "normal" for this particular problem.)

In 1939, we consumed in the textile mills of this country some five-and-a-quarter billion pounds of all textile fibers — new and recovered. 1940 doesn't count—because that was part fish and part fowl; the defense program started in the middle of that year. In 1941—the first full year of the defense program—we consumed some seven-and-an-eighth billion pounds. In 1942—the first war year—we are at the present time consuming at the rate of some seven-and-three-quarters billion pounds.

In other words, we are now consuming approximately 50% more than in the last "normal" year, 1939, but only 8% more than in 1941. That means that we have about leveled off—and have reached the end of any important prospective gains in over-all fiber consumption. (To repeat, it does not mean that we have exhausted our supply of fibers, but that we are exploiting that supply to the utmost, in relation to available machinery and necessary products.)

NOW, to come to the relation between military and civilian needs, and the part synthetics may play.

At the present rate of fiber consumption (as of this date in 1942) there is a decrease of some billion pounds of natural fibers (cotton, wool and silk) under 1939 going into civilian use, because of the heavy demands for military and essential industrial purposes. There is also, of course, a sharp decrease in the consumption of bast fibers, but actual figures are not obtainable.

On the other hand, there is an increase of some 150,000,000 lb. of synthetic fibers going into civilian use today as compared with 1939—due mostly to the great expansion of the synthetic-fiber industry. Consumption of synthetics increased from about 460,000,000

lb. in 1939 to an annual rate of about 660,000,000 today. However, it is apparent from the above figures that more than a third of that gain was sidetracked into military and allied channels.

The main question that now protrudes is: How much of the remaining increase of 150,000,000 lb. of synthetics over 1939 can be counted on, safely, for civilian use, to replace other fibers called into the Armed Services for the duration?

The answer to that question lies in that obscure zone where other far weightier questions rest: How long will the war last? How many soldiers will we have to clothe? How many parachutes, et al, will we have to provide?

That relatively small increase of 150,000,000 lb. could be wiped out almost over-night, and be replaced by a deficit of unknown quantity.

In fact, there is an excellent chance that by the middle of next year 50% of the viscose filament yarn production will be going into military and essential civilian and industrial uses, instead of some 25 or 30% now; and that approximately 10% of acetate will be going into such uses. Civilian-wise, that means that approximately only 250,000,000 lb. of the filament yarn production will be available for ordinary civilian use, out of a total of 450,000,000 lb. Nor is there any reason to believe that this percentage diversion from normal channels might not increase beyond that. Consequently it seems safe to say that, over the future, instead of being able to fill up the deficits in the natural fiber supply, synthetics will have a difficult, if not impossible, task maintaining their own position. More and more stringent allocations seem to be in the cards.

But as of today, the fact remains that synthetics have held, and still hold, the balance of power in the textile-fiber supply zone. They are as "versatile for victory" as they are for peace-time pursuits.

The men who created the synthetic-fiber industry in this country earn the satisfaction of serving the country well in war as in peace.

1942 Rayon Output New High

IF RAYON PRODUCTION in the second half of this year goes along at about the same rate as that for the first half, the total output of filament and staple combined would be approximately 625,000,000 lb., as against 585,000,000 lb. in 1941, or an increase of 7%. This is again a new high, the latest in a succession of annual records. That the increase was not greater than 7% was due merely to the restrictions on plant expansion.

This estimated total of 625,000,000 lb. for 1942 includes 475,000,000 lb. of rayon filament yarn and 150,000,000 lb. of rayon staple fiber—as compared with the 1941 totals of 450,000,000 lb. and 135,000,000 lb. respectively.

The half-year figures on which the above estimates are based are from the *Rayon Organon*, published by the Textile Economics Bureau. The *Organon* recently reported for the second quarter of 1942 and made comparisons between the first half of this year with the calendar years of 1941, 1940 and 1939. An abstract of that report is printed below:

"Second quarter rayon yarn production amounted to 117,600,000 lb. This output is the second largest quarterly production total on record and is exceeded only by the all-time high of 118,800,000 lb. produced in the fourth quarter of last year. In accomplishing this second quarter production level, however, the industry surpassed its first quarter output only by the comparatively small amount of 500,000 lb. But, second quarter production this year exceeded last year's second quarter production by 5,600,000 lb., or 5%. In Table I is given quarterly rayon yarn production by process of manufacture for recent years.

"The production of viscose-cuprammonium yarn in the second quarter amounted to 76,900,000 lb., a new all-time-high quarterly total. This new record, however, exceeded the previous high of 75,700,000 lb. produced in the fourth quarter of 1941 by less than 2%.

"On the other hand, the acetate division of the industry registered a further decline in output during the second quarter. Acetate yarn production in the three months, April through June, amounted to 40,700,000 lb. as compared with an output of 41,900,000 lb. in the first quarter and with the quarterly record total of 43,100,000 lb. produced in the fourth quarter of last year.

"Staple fiber: Table II shows rayon staple fiber available for consumption by quarter years from 1939 to date. The domestic production of rayon staple fiber in the second quarter continued its record-breaking ways with a new-high quarterly output of 39,500,000 lb. This production compares with 36,800,000 lb. in the first quarter of the year and is 27% above the "available for consumption" in the second quarter of 1941.

"In summary, the combined second quarter production performances of the yarn and staple fiber divisions of the rayon industry made possible a new quarterly-high output of rayon. In this April to June period, 157,100,000 lb. of rayon (yarn plus staple fiber) were produced as compared with 153,900,000 lb. in the first quarter and 155,100,000 lb. in the fourth quarter last year."

Table I—Quarterly Production of Rayon Filament Yarn by Process

Millions of Pounds

	1942			1941			1940			1939		
	V + C	A	Total	V + C	A	Total	V + C	A	Total	V + C	A	Total
1st Quarter	75.2	41.9	117.1	67.9	38.3	106.2	63.9	31.9	95.8	56.9	25.5	82.4
2nd Quarter	76.9	40.7	117.6	70.4	41.6	112.0	64.4	33.1	97.5	51.6	23.0	74.6
3rd Quarter	....	....	....	73.5	40.7	114.2	61.7	31.3	93.0	58.3	19.7	78.0
4th Quarter	....	....	....	75.7	43.1	118.8	67.1	36.6	103.7	64.5	29.1	93.6
Year's Total	....	....	....	287.5	163.7	451.2	257.1	132.9	390.0	231.3	97.3	328.6

V + C is viscose plus cuprammonium process yarn. A is acetate process yarn, partially estimated.

Table II—Quarterly Rayon Staple Fiber Available for Consumption

Millions of Pounds

	1942			1941			1940			1939		
	Prod	Imp	Avail	Prod	Imp	Avail	Prod	Imp	Avail	Prod	Imp	Avail
1st Quarter	36.8	....	36.8	25.0	5.7	30.7	20.4	9.0	29.4	10.9	10.1	21.0
2nd Quarter	39.5	....	39.5	26.6	4.4	31.0	19.1	3.3	22.4	11.5	10.9	22.4
3rd Quarter	....	....	....	34.1	1.5	35.6	18.4	1.0	19.4	13.3	10.0	23.3
4th Quarter	....	....	....	36.3	....	36.3	23.2	4.4	27.6	15.6	16.4	32.0
Year's Total	....	....	....	122.0	11.6	133.6	81.1	17.7	98.8	51.3	47.4	98.7

Prod — Production by domestic producers, partially estimated.

Imp — Imports for consumption of rayon staple fiber and spun rayon yarn.

Avail — Staple fiber available for domestic consumption, being the sum of domestic production and imports.

Fabrics for Military Purposes

Rayon, Nylon, and other synthetics are playing increasingly important roles

RAYON, NYLON, and other synthetic fibers have, during the last twelve months, begun to assume the position of vital importance for military purposes which we predicted in the 1940 Rayon Year Book Number of TEXTILE WORLD. Two years ago use of rayon was called for in only a very small number of the specifications which had been set up by the Army and Navy.

A year ago imports of silk had been cut off, but there had been little change as regards use of synthetics for military purposes. Then came Pearl Harbor, the necessity of raising an Army numbering many millions of men, the prospect of a long war, the imminent shortages of various natural fibers. Immediately it became apparent that increasingly large quantities of synthetic fibers would have to be employed in an ever-widening range of military applications.

From a volume standpoint, the two most important military uses to date for synthetics probably are in production of parachutes and tire cords. However, because of their versatility, the synthetic fibers already have been adopted for over 30 direct military uses, and the range of products is being expanded rapidly. The entire output of Nylon and of high-tenacity rayon is going into manufacture of textiles for military purposes. In addition, large amounts of Fiberglas textiles are being employed in military aircraft, etc.

The high-tenacity rayon yarns are, in practically every instance, "tailor made" for a specific purpose. Thus, the high-strength yarns for tire cords have an elongation of about 12%, whereas those for chutes have an elongation of 16 to 20%. Today all tires for bombers and transport planes are made with rayon cords; these cords permit a substantial saving in rubber and in total weight of tires.

The accompanying table contains a list of the more important Army and Navy specifications for textiles composed in part or in whole of rayon or Nylon. Other types of materials which have been adopted or which are now being experimented with which contain continuous filament rayon or rayon staple fiber include: shirtings, uniforms, overcoats, underwear, tenting, camouflage cloth, insignia, surgical-dressing wrappings; wire-covering insulation for bombers, destroyers, submarines, anti-aircraft control, and Signal Corps switchboards.

NUMEROUS EXPERIMENTAL FABRICS composed of blends of rayon staple and natural fibers have been made. It is not likely, however, that many of these will be adopted unless they prove to be superior to the fabrics now being purchased, or a shortage of natural fibers develops which necessitates their adoption. For example, among experimental fabrics developed for use for the Navy, Coast Guard, and Maritime Commission are blankets; one of cotton, wool and acetate; and another of 70% wool and 30% acetate. A covert cloth of wool and acetate and a 30-oz. kersey of 60% wool and 40% acetate have been produced, along with a serge containing the same fiber percentages.

Much speculation has been made as to the extent that rayon will play in outfitting the WAACS. Already, specifications for rayon slips and panties have been issued, and procurement of rayon full-fashioned hosiery has started. It is quite possible also that rayon will be adopted for some of the garments to be worn by the WAVES.

Abstracts of specifications and manufacturing data on several types of rayon fabrics have appeared in previous issues of TEXTILE WORLD. Similar information of some of the other more interesting products (excluding those which are regarded as military secrets, such as Nylon parachute cloth) follow.

CLOTH, SUMMER WEIGHT, for officers' uniforms, is covered in Specification P.Q.D. 172. Type III is a spun rayon fabric to be made of viscose process spun rayon in warp and filling. Weave shall be plain; fabric shall have minimum weight of 8 oz. per linear yard, and shall finish not less than 39 in. exclusive of selvages; minimum thread count is 48x48, minimum breaking strength grab method 56 lb. in warp and filling; yarns shall be 2-ply in both warp and filling. Fabric is to be dyed with vat color to show good fastness to 30 days weather, dry-cleaning, laundering, and perspiration. When subjected to shrinkage in sponging test, the fabric shall not show a greater shrinkage than 4% in the warp and 3% in the filling.

CLOTH, RAYON, HIGH STRENGTH, for bomb parachutes is covered in Specification AXS-701. Weave is plain; maximum weight is 4 oz. per sq.yd.; thread count warp, 47 to 51; count of filling 42 to 46; width as specified in contract with tolerance of ±½ in.; minimum breaking strength by raveled strip method 80 lb. warp, 70 lb. filling; tear resistance 10 lb. warp and filling; elongation 12% warp, 20% filling; air porosity 140± 30 cu.ft. per min. per sq.ft. sizing 1½% maximum. High-tenacity viscose rayon of approximately 275 den., 120 fil. with 3 t.p.i. is suggested for producing a fabric with the desired characteristics.

CLOTH, RAYON, HIGH STRENGTH, for flare parachutes is covered in Specification AXS-728. Weave is plain; finished weight 1.35 oz. per sq.yd.; construction ranges from 86x86 to 100x100; air porosity ranges from 400 to 500 cu.ft. per min. per sq.ft. High-tenacity viscose rayon of approximately 50 den., and 24 fil. with 6 t.p.i. is suggested for producing a cloth with the desired characteristics.

LINING FABRIC, SATIN for lining officers' uniforms is covered in Navy Specification 27L9. One construction is a 230x74, 5-shaft satin; with warp and filling of viscose rayon of 120 den. with 5 t.p.i. Another construction is a 288x88, 8 shaft satin; warp 100 den. with 10 t.p.i.; filling 200 den.

NECKERCHIEF used by the Navy and the Coast Guard is covered in Navy Specification 55 N2F. Construction is 144x100; warp is 55-den. 15 t.p.i., black acetate rayon yarn; filling is 75-den. black acetate rayon yarn; cords are 3 end of 300-den. black acetate yarn.

GROUP OF ARMY AND NAVY TEXTILES: (1) Navy hat band, all-acetate, discharge printed; (2) Navy neckerchief described in text; (3) Nylon parachute fabric; (4) braid, cord edge, viscose rayon with cotton core; (5) experimental blanket, 70% wool and 30% acetate rayon staple; (6) 30-oz. experimental Kersey, 60% wool and 40% acetate rayon staple; (7) covert cloth for nurses caps, 60% wool and 40% acetate rayon staple; (8) experimental serge for Navy uniforms, 60% wool and 40% acetate rayon staple.

SPECIFICATIONS FOR SYNTHETIC-FIBER TEXTILES

Textile	*Use and Characteristics*	*Yarn*	*Bought by*	*Spec. No.*
Cloth, Banner	For regiment colors, standards, etc.	Rayon	PQ	7–2A
Cloth, Parachute	For dropping mines	HT Rayon	O	AXS–701
Cloth, Parachute	Acetate, saponified, for chutes	Acetate	AC	AN–CCC–C–491
Cloth, Parachute	For landing heavy equipment	HT Rayon	AC	16123
Cloth, Parachute	For landing ammunition and supplies	HT Rayon	A	16126
Cloth, Parachute	For dropping flares from planes	HT Rayon	O	XS–727
Cloth, Parachute	For dropping bombs	HT Rayon	O	AXS–701
Cloth, Parachute	Paulin for protecting plane motors	Acetate	AC	16755
Cloth, Parachute	For dropping mines at sea	HT Rayon	N	S–10538–2
Cloth, Parachute	For escape chutes	Nylon	AC	AN–CCC–C–486
Cloth, Parachute	For escape chutes	HT Rayon	AC	16081–A
Cloth, Uniform	Optional officers' summer-weight uniform	Staple	PQ	PQD 172
Cord	Core type braid with 32 ends	Nylon	AC	AN–C–63
Cord, Shroud	Lines for flare parachute	HT Rayon	O	AXS–728
Cord, Braid	Used for uniform decorations	Cotton & Rayon	PQ	7–15A
Cord, Braid	Core type braid with 32 ends	Nylon	N	M–518
Fabric, Gas resist.	Given water-resistant, gas-resistant finish	Synthetic	AC	16112–A
Fabric, Rayon	Used for chutes, etc.	HT Rayon	AC	16081–A
Fabric, Tie	Barathea, black yarn	Acetate	N	73N1C
Fabric, Tie	Barathea, black yarn, different construction	Acetate	N	73N2C
Fabric, Tow Target	For all-rayon tow target	HT Rayon	AC	16129
Lining, Satin	Officers' uniform lining	Viscose, acetate	N	27L9
Hatband	For hatband	Acetate	N	27R2a
Hatband	For hatband, different construction	Acetate	N	55R1b
Neckerchief	Used by Navy and Coast Guard	Acetate	N, CG	55N2F
Panties, Rayon	WAAC panties of either viscose, acetate, or cuprammonium yarn	Rayon	PQ	PQD 219
Slip, Rayon	WAAC slip of either viscose, acetate, or cuprammonium yarn	Rayon	PQ	PQD 222
Tape	Rayon with cotton filling	Rayon & Cotton	AC	16125
Tape	Nylon with cotton filling	Nylon & Cotton	AC	AN-DDD-T-106
Thread	For sewing parachutes, etc.	Nylon	AC	AN–T–9
Shroud lines	Braid, 16 ends, moisture resistant	HT Rayon	O	AXS–707
Webbing	Tubular webbing for aeronautical purposes	Nylon	AC	16107

Key—
A—U. S. Army. AC—Army Air Corps. CG—Coast Guard. N—U. S. Navy. O—U. S. Army Ordnance. PQ—Philadelphia QM Depot. HT Rayon—High Tenacity Rayon.

Fabrics for Civilian Use

Blends command dominant position for spring; utility theme assumes importance

The editors of Textile World wish to express their appreciation to the various fabric technicians who furnished certain of the data and fabric samples for this article and the preceding one on fabrics for military purposes. Particularly helpful were Pierre Sillan and William Luttge, of American Viscose Corp.; Charles A. Lasky, of Celanese Corp. of America; Carl Taber, of E. I. du Pont de Nemours & Co.; J. Meierhans, of J. P. Stevens & Co., Inc.; and several members of the staff of A. M. Tenney Associates, Inc.

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FABRIC DEVELOPMENT for spring lines is proceeding along two channels. First, successful lines of previous years are carried over with little or no changes. Second, a general consolidation of lines is being made with concentration on the utility theme. Present successful fabrics are being altered slightly with view of making them more weavable and serviceable.

Shortages of yarns in the finer deniers and resultant concentration of the industry on a line of coarser denier yarns with a smaller range of filament numbers have changed fabric construction. Modification in pickage and yarn size of fabrics in both filament and spun rayon yarns to handle the new denier range has brought about increased production from the standpoint of weaving. The coarser yarns employed give, in many instances, better service characteristics to the spring fabrics.

War demands account for an appreciable percentage of the viscose production. And the coming year will find increased use of viscose in the war program; consequently, blends will be the order of the day for spring fabrics. High-tenacity yarns are used entirely for military purposes and are entirely out of reach of the civilian. Much experimental work has been done to develop acetate for war fabrics. Hence, although until now the civilian could rely on acetate for his or her clothing, shortages soon may be apparent. On the other hand, rayon staple blended with natural fibers will tend to extend the supply of fabrics available.

Fabrics of military character, such as gabardines, twills, cavalry twills, ribbed weaves, herringbones, etc., will be in demand, especially for suitings and work clothes for those on the production line. Unusual possibilities exist in the spring line of fabrics for fiber manipulation. Recent WPB rulings make it practically mandatory for worsted mills to resort to blends if they are to receive adequate supplies of wool. For spring, blends of 50% wool and 50% acetate, and viscose blended with 15% to 25% wool will prove popular. Also, wool and Aralac blends will contain 15% to 25% of Aralac.

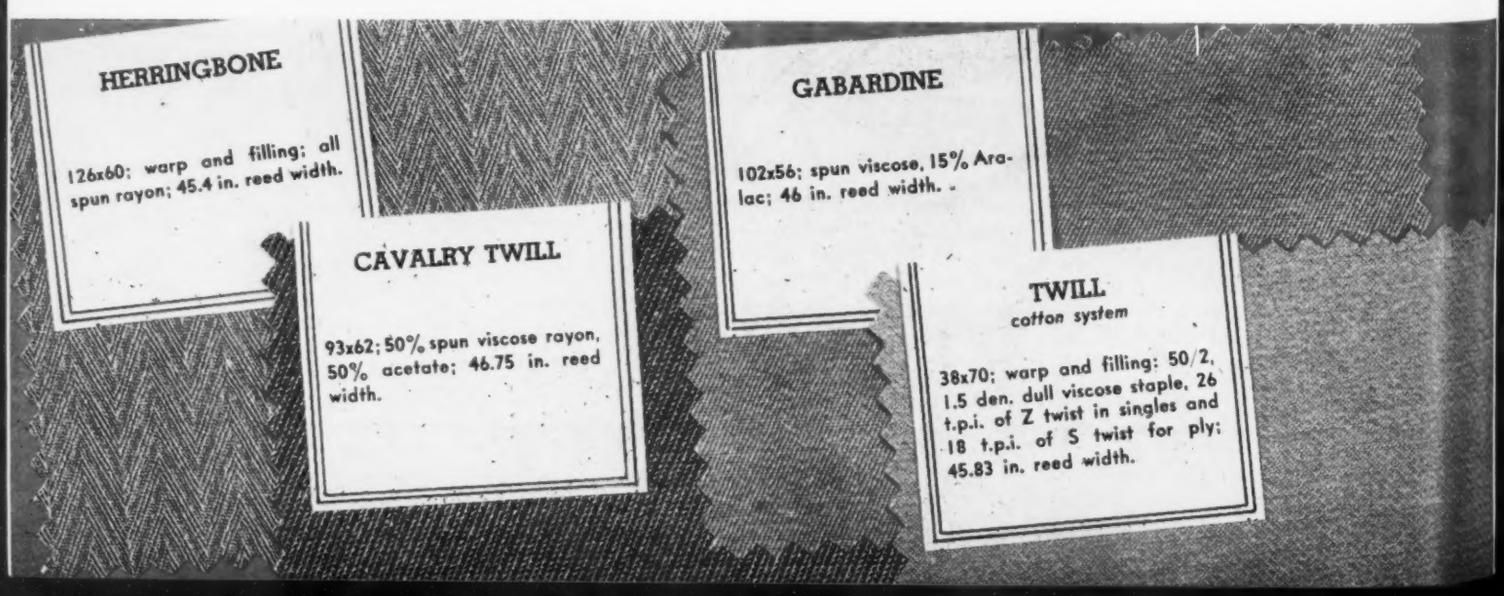
The usual line of poplins, fugies, satins, taffetas, shantungs, and linen and wooly types of fabrics will be popular. Crepés, romains, etc., employing crepé yarns, although always in demand, may not be available in a large quantity because of low production of such yarns necessitated by high yarn twists. Colors tend toward pastel shades and plain colors; the lack of novel fabric construction is noticeable.

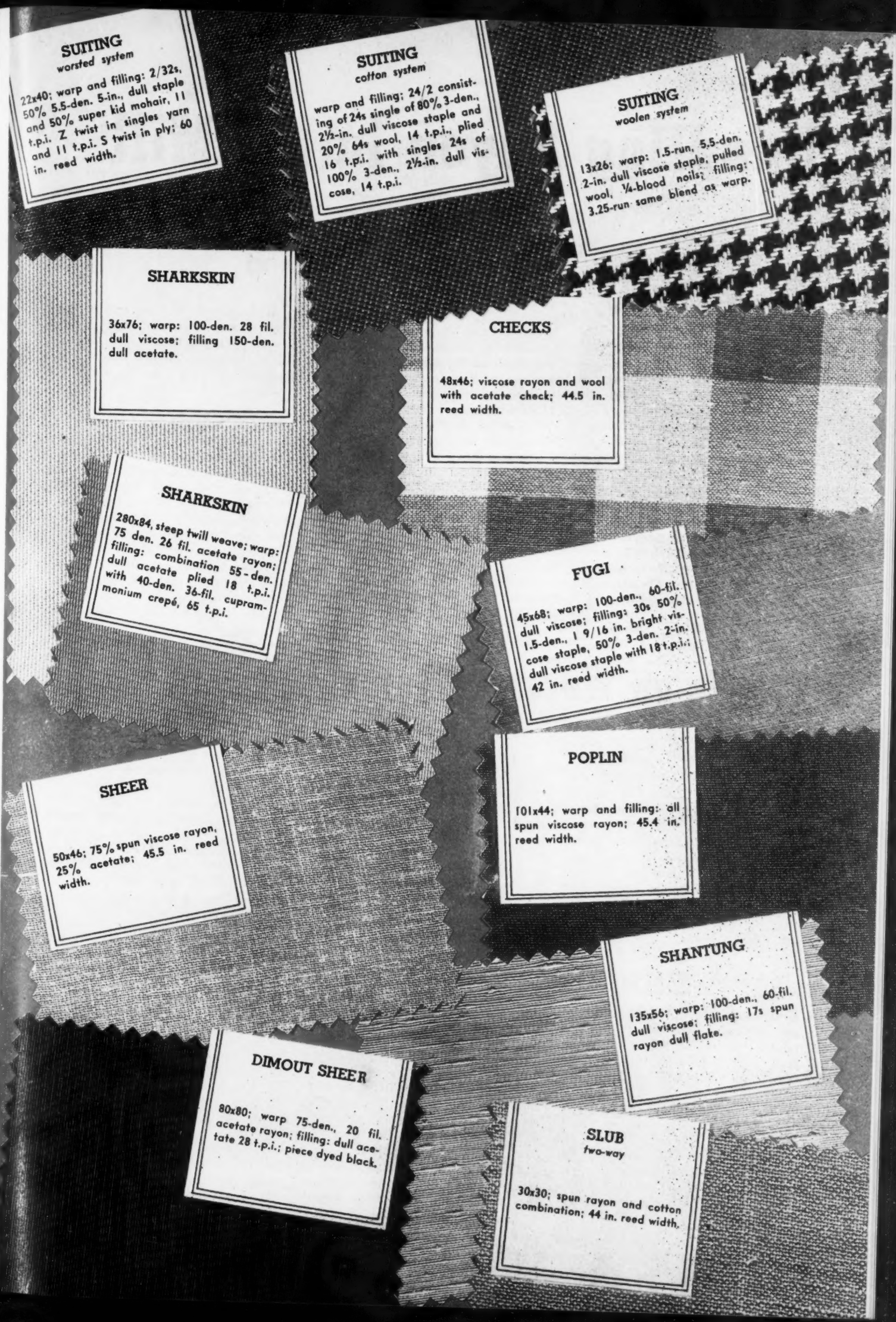
Household fabrics, such as draperies, upholsteries, etc., will be hard hit because of priorities and reduced production on the part of furniture manufacturers. It is possible that heavier fabrics in this line will be offered, caused chiefly by modified fabric construction and by the demand for draperies to facilitate blackout preparations.

Rayon blends are used for toweling, diaper cloth, etc. One type of rayon crash toweling that has proved popular consists of 44% rayon, 46% linen, and 10% cotton. Fabrics containing linen may have to be altered slightly by spring and some other fiber substituted for linen. Carpets will continue to be made from rayon blends. It is stated that a blend of 50% wool and 50% rayon makes a serviceable carpet.

In the industrial field Vinyon and Fiberglas are being used for filter fabrics and other purposes.

An outstanding type of fabric for spring will be ninons and those of similar construction used for dimout purposes, especially in store windows and industrial buildings where it is advisable to have maximum visibility but with a minimum amount of light escaping.


HERRINGBONE
126x60; warp and filling; all spun rayon; 45.4 in. reed width.
CAVALRY TWILL
93x62; 50% spun viscose rayon, 50% acetate; 46.75 in. reed width.
GABARDINE
102x56; spun viscose, 15% Aralac; 46 in. reed width.
TWILL
cotton system
38x70; warp and filling: 50/2, 1.5 den. dull viscose staple, 26 t.p.i. of Z twist in singles and 18 t.p.i. of S twist for ply; 45.83 in. reed width.


SUITING
worsted system
22x40; warp and filling: 2/32s, 50% 5.5-den. 5-in., dull staple and 50% super kid mohair, 11 t.p.i. Z twist in singles yarn and 11 t.p.i. S twist in ply; 60 in. reed width.
SUITING
cotton system
warp and filling; 24/2 consisting of 24s single of 80% 3-den., 2½-in. dull viscose staple and 20% 64s wool, 14 t.p.i., plied 16 t.p.i. with singles 24s of 100% 3-den., 2½-in. dull viscose, 14 t.p.i.
SUITING
woolen system
13x26; warp: 1.5-run, 5.5-den. 2-in. dull viscose staple, pulled wool, ¼-blood noils; filling: 3.25-run same blend as warp.
SHARKSKIN
36x76; warp: 100-den. 28 fil. dull viscose; filling 150-den. dull acetate.
CHECKS
48x46; viscose rayon and wool with acetate check; 44.5 in. reed width.
SHARKSKIN
280x84, steep twill weave; warp: 75 den. 26 fil. acetate rayon; filling: combination 55-den. dull acetate plied 18 t.p.i. with 40-den. 36-fil. cuprammonium crepé, 65 t.p.i.
FUGI
45x68; warp: 100-den., 60-fil. dull viscose; filling: 30s 50% 1.5-den., 1 9/16 in. bright viscose staple, 50% 3-den. 2-in. dull viscose staple with 18 t.p.i.; 42 in. reed width.
POPLIN
101x44; warp and filling: all spun viscose rayon; 45.4 in. reed width.
SHEER
50x46; 75% spun viscose rayon, 25% acetate; 45.5 in. reed width.
SHANTUNG
135x56; warp: 100-den., 60-fil. dull viscose; filling: 17s spun rayon dull flake.
DIMOUT SHEER
80x80; warp 75-den., 20 fil. acetate rayon; filling: dull acetate 28 t.p.i.; piece dyed black.
SLUB
two-way
30x30; spun rayon and cotton combination; 44 in. reed width.

Handling Rayon in the Mill

Newest methods of making blended yarns, throwing, knitting, and finishing

WAR TIME CONDITIONS and demands have necessitated the development of new techniques in handling continuous-filament rayon yarn and rayon staple fiber. One trend which is rapidly gaining momentum is the manufacture of rayon staple and wool blends on the worsted system; yet little technical information on this subject has been published. Hence, the first and longest of the following group of practical mill articles is one describing the special methods and settings necessary in making blends on the worsted system. Next are two articles written by authorities in their respective fields, describing the latest techniques which have been developed for throwing rayon hosiery yarns and for knitting rayon full-fashioned hosiery. Following is a stimulating discussion of recent improvements and suggested improvements in manufacture of rayon seamless hosiery, including women's bare leg stockings and men's half hose. Equally authoritative is the final article in the group describing methods for dyeing spun rayon uniform cloths for members of women's auxiliary organizations,

Blends on Worsted System

Despite the growing use of rayon staple fiber in the worsted industry, there is a dearth of published information on production of rayon-blends. Particularly timely, therefore, is this article which is the first of a short series on handling rayon-worsted blends on the Bradford system. The author has had a wide experience in the textile industry and is now head of the worsted division, sales service department, of American Viscose Corp.

By ROBERT A. SMITH

A REPRESENTATIVE of a large worsted and woolen concern recently made a remark that should be broadcast. He said, "There is no doubt that rayon has entered our industry to stay. Even when unlimited supplies of wool are again available we will find that certain rayon-worsted fabrics will have an established market. Therefore, if we are smart, it behooves us to investigate the possibilities and limitations of rayon and to create new and different fabrics utilizing as many of the good characteristics of the rayon fiber as possible."

What may the rayon staple fiber of today and tomorrow do? And what will be the rayon staple fiber of tomorrow? Already serious attention is being given the development of fibers for specific industries. The writer believes that the rayon of a not-too-distant tomorrow will possess so many properties appealing to worsted and woolen men that now is the time for them to develop their processes to keep pace with successive improvements that are constantly appearing in rayon staple fiber.

With these thoughts as a premise, it is believed that this series of articles dealing with the use of viscose rayon staple fiber in Bradford spun yarns may help in some measure to bring the subject into open discussion. Before going further the writer wishes to emphasize that he is presenting a combination of fact, suggestion, and theory. The facts consist largely of data covering machinery specifications. The particular machinery referred to is located in the Textile Unit of the American Viscose Corp., at Marcus Hook, Pa. The suggestions made will be based on the practice in the Textile Unit. These are not to be considered the only methods of running rayon worsted blends, but it is felt that they constitute a good starting point. Deviations in accordance with local equipment and as the result of experience will naturally follow.

CARDING. It is the usual practice in the worsted industry to blend rayon with wool in the drawing operations; therefore, there is no necessity for making a rayon-wool blend before carding. This preserves the value of the wool noils and insures the low noilage of rayon possible when combing the latter by itself. Rayon staple fiber is perfectly clean and baled in a preopened condition, so that no scouring or opening before carding is necessary. A floor blend is laid down and oil applied to the rayon in the manner usual to the worsted industry. It has been found that the application of about 1½% of straight oil is better than the application of an emulsion. These oils are usually of a lower viscosity than wool oils and should possess the following characteristics: They should scour out easily; contain no free acid; and should not discolor, oxidize, or become tacky with age. There are many such oils on the market which can be secured through the same sources that supply wool oils.

Following the oiling, the stock is loaded directly into the feed hopper of the card. When rayon staple is to be stock dyed, a suitable finish may be added by the dyer to correct the loss of the finish applied by the rayon manufacturer. The dyed staple may be oiled before carding if found necessary. As in the case of wool, oiling of the staple is not recommended if it is to be put through cards clothed with garnet wire. In carding, our chief advice is, "Do not overcard." Rayon staple fiber is not matted and tangled and, therefore, does not require the same amount of carding as wool. A single-cylinder worsted card equipped with a breast is quite sufficient. The set-up of the card in our Textile Unit is given in Table I.

In studying this table, a mill man will immediately note that most of the rollers are clothed with convex wire. This is not necessary, but in our case

was done because our card is called upon to process many sizes of rayon staple fiber. We centered our specifications on the running of 5.5-den. rayon. Many practical mill men who have visited the Textile Unit have commented on the excellence of the card sliver obtained when running this denier. The choice of convex wire, rather than round wire, was made to assure added longitudinal strength in the wire to stand the pull of heavier denier fibers and, at the same time, provide more space between the wires across the card.

The general density of the wire, or points per square inch, is less than will be found on a typical card used for 64s wool. This was done with the same premise in mind: "Do not over-card." However, this does not mean that cards now installed in worsted mills cannot be used for the carding of rayon. It will be obvious to any carder that he can reduce his carding by taking workers and strippers out of action by the insertion of a piece of belting under each end of the roller shaft. Raising workers and leaving them in place is advocated, rather than removing them entirely, to avoid too much exposure of the main cylinder which will cause drafts and an excess of fly.

In carding rayon staple fiber, there will be very little under-card waste, probably ½ to ¾%, and with care in collecting, all of it may be re-run, since there is no dirt, shives, or burrs to drop through the grids. By extending the screens carefully, this under-card waste can be practically eliminated.

On our 48-in. card we usually produce a sliver weighing 2¼ to 2½ oz. for 5 yd. The production runs about 45 lb. per hr.

PREPARER GILLING. After carding, it is the usual practice to give rayon a single gilling operation before combing. An intersecting gill box is used with a single row of pins in the fallers, 8 per in. of No. 15 wire (0.0705). A draft in the neighborhood of 6 is recommended so that the fibers receive considerable straightening. A sufficient number of ends should be fed to this gill box so that with a draft of 6 the resulting strand weighs from 5.75 to 6.25 oz. for 5 yd. No further lubrication is needed at this point. In fact, if it is attempted, the greatest of care is needed to apply it as a very fine spray; otherwise a stringy, lean strand will result. This gill box can be of either the balling head or the can type.

PUNCH BALLING. This operation is usually considered fairly routine, but one or two suggestions may be in order. The pressure should be as light as possible so that the comb balls are not packed too solidly. This will result in less licking in unwinding and present a more fluffy sliver to the comb pins. Never run rayon sliver from the center of a ball in this operation. The slight resulting twist makes a poor ball and is also hard on the circles of the comb.

We have also observed that the heavy steel rollers between which the four strands pass are not necessary and are, in fact, somewhat harmful. Their excessive weight is such that if an end runs out when the comb ball is partially made the inertia of the rolls causes a drafting action when the machine is restarted. In many instances all four ends break out entirely. We have removed the top steel roll and installed a pair of light, self-weighted wooden rolls. These wooden rolls are placed between the steel roll and the pressure foot, as close to the latter as possible. Details of the punch box are shown in Fig. 1.

Preceding the rolls we installed tandem guide-eyes for each strand so that there is as little "weaving" of the strand as possible. The inner line of guides are flattened and not circular. The outer line of guides are the original ones which have been supported on extension arms about 12 in. long. We found a very easy way to make each of the four slivers run in its proper guide eye without "licking" into a neighboring sliver. First, the four eyes of the inner group are staggered in polka-dot fashion with one line of centers raised about ½ in. Second, the guide eyes that are raised are also made to project from the face of the mounting about ¾ in. The other two eyes are flush with the mounting. This arrangement, as well as the method of passing the slivers under the heavy steel roll, is illustrated in Fig. 1.

A further refinement has been the introduction of a paper core around which the comb ball is wrapped. Due to its use the balls unwind uniformly and each of the four slivers remains smooth and undisturbed until completely unwound.

COMBING. No drastic changes were made in the Noble comb. As is the usual practice when working wool, the small circle runs one tooth faster than the large circle. It is found advantageous to use the same size draw-off rolls for the small circle as for the large circle. For 5 or 6-in. staple 1¼-in. rolls are used in both places. The inside rolls run six teeth faster than the outside rolls.

The draft on a comb is of great importance in preserving the life of the circles. Draft also plays an important role in the number of neps that are allowed to pass through the pins. If drafts are too great, the pins are bent forward and the resulting gap allows neps to work through. The fibers in a rayon sliver have a greater average length than the fibers in a wool sliver; therefore, *all* the rayon fibers start through the draw-off rolls sooner than would be the case with wool fibers. Naturally, the further away from the draw rolls this drafting commences, the more severe will be the angle of the fiber around the circle pin. If this draft is too great, pins are sprung or broken off. This is especially true on the small circle, due to the receding arc of its circumference. Excessive draft, alone or in combination with other factors, can also break or severely stretch rayon fibers. Some of these other factors may be feeding too heavy and dabbing too deep, both of which may pack the the rayon staples too tightly in the pins.

It was mentioned above that 1¼-in. draw-off rolls are used for both large and small circles; also that the small circle is driven one tooth faster than the large circle, and the inner draw rolls

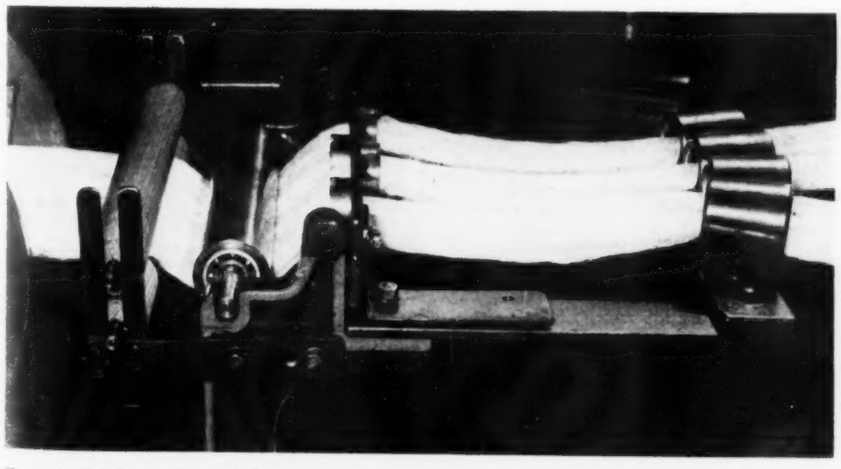


Fig. 1. Details of modified punch box used in worsted section of American Viscose Corp's Textile Unit, at Marcus Hook, Pa.

are driven six teeth faster than the outer rolls. This combination of speeds and gears gives the following:

Speed of large circle, 3.55 r.p.m.
Draft at large circle, 1.83 r.p.m.
Draft at small circle, 1.9 r.p.m.

One change which is advantageous when running rayon concerns the long apron that runs from the inside draw-off rolls toward the large circle. This apron should be longer than usual so that it is possible to move the outside idler roll close to the delivery side of the outside draw-off rolls, in this way, the strand is grasped by the aprons almost as soon as it emerges from the outside rolls, overcoming the tendency of the sliver to sag.

Here the writer wishes to insert a word about the theory of comb circles designed for rayon. A typical set of wool circles is built so that as you progress from the coarser rows to the finer ones you find that the space between rows decreases. This results in the last two fine rows being very close together. In a set of circles designed for running rayon, all rows are equally spaced. This design is predicated on the knowledge that rayon should not be compressed. It is obvious that all rayon fibers are not perfectly straight when they are dabbed into the pins—nor for that matter are wool fibers. Therefore, certain fibers will take a zigzag course through the pins. When the fiber is pulled out of the pins by the draw-off rolls, the pins act to a certain extent as snubbing-posts; hence it is obvious that the closer you place the rows of pins the more acute will be the angle of snubbing. When running rayon staple fiber, we find two conditions which seem contrary. First, rayon is stronger than wool and, if snubbed too strenuously, will damage the pins. Second, in spite of its strength, rayon under compression is harder to draft than wool and in many cases breakage of fiber will result.

This discussion of snubbing and compression brings us to the subject of pins per inch in the circles. On 5.5-den., which is the most popular size in the worsted industry, it is found advisable to use less pins per inch than would be used on 64s wool. In combing this grade of wool it is not uncommon to use 44/46 circles, or even finer. Our circles are pinned 36/42 for 5.5-den. rayon. Here again the mill man will notice a deviation from his usual practice, in that the small circle is six pins finer than the large circle. This departure is again predicated on the theory that rayon should not be compressed. In other words, the large circle is pinned rather openly, to give as little restraint as possible and still pro-

Table I.
Details of Worsted Card Showing Typical Operating Set-up.

48-in. Davis & Furber
Average production (100% Fibro) 45 lb. per hr.

	Dia. in Inches	*Circum. in Inches*	*Wire on Wire*	*Wire Number*	*Counts and Crowns*	*Points per Sq. In.*	*Gage*	*R.P.M.*	*Inches per Min.*
Feed rolls	1	11.12	Garnetted			#1–4	26	1.7	21.7
1st Licker-in	30	95.50	Garnetted			2 Lt–8	26	8.5	811.7
1st Top divider	20	63.75	Garnetted			3 ST–10	26	4.	255.0
2nd Licker-in	26	81.00	24/28	65.7	182		26	21.5	1806.0
Breast	36	115.25	28/32	90.9	324		26	31.	3918.5
1st Worker	10	34.10	28/32	90.9	324		24	8.	272.8
Stripper	4	14.90	28/32	85.9	306		26	67.	998.3
2nd Worker	10	34.10	28/32	90.9	324		24	7.5	255.7
Stripper	4	14.90	28/32	85.9	306		26	67.	998.3
Angle stripper	8	27.50	30/34	85.9	306		26	347.2	9549.0
Cylinder	54	172.00	30/34	105/10	420		..	80.	13760.0
3rd Worker	10	34.10	30/34	105/10	420		26	7.	238.7
Stripper	4	14.90	30/34	100/10	400		26	262.5	3911.2
4th Worker	10	34.10	30/34	105/10	420		26	6.7	230.1
Stripper	4	14.90	30/34	100/10	400		26	262.5	3911.2
5th Worker	10	34.10	30/34	105/10	420		28	6.5	221.6
Stripper	4	14.90	30/34	100/10	400		26	262.5	3911.2
6th Worker	10	34.10	30/34	105/10	420		28	8.	272.8
Stripper	4	14.90	30/34	100/10	400		26	262.5	3911.2
Fancy	12	44.80	30	45/8	144		..	430.5	19286.0
Doffer	40	128.00	31/35	115/11	506		26	5.	640.0
Doffer Comb	..	..	..	..	..		26	767 Strokes	

Table II.
Specifications of Comb Circles

Row	*Pins per Inch*	*Size of Pin*
	LARGE CIRCLE	
1	36	16 x 26
2	36	16 x 26
3	33	17 x 25
4	28	17 x 24
5	21	#21
6	19 (open)	#20
7	17	#19
8	15	#18
9	13 (open)	#17

Brass: 3¼ x 7/16 in.
Set Over: 2½ in.
Length of Pin: 1½ in.

Row	*Pins per Inch*	*Size of Pin*
	SMALL CIRCLE	
1	42	17 x 27½
2	42	17 x 27½
3	35	18 x 26
4	28	18 x 24
5	21	#21
6	17	#19

Brass: 1¾ x 7/16 in.
Set Over: ¾ in.
Length of Pin: 1⅜ in.

vide thorough combing. The small circle, on the other hand, is pinned six pins finer so that the noil and neps are more thoroughly removed.

Detailed specifications for our comb circles are given in Table II.

The general admonition in regard to the combing of rayon may be stated in these few words: "Treat it properly." In combing, as in other processes, rayon staple fiber should be handled with as little tension as possible. Once rayon is actually stretched, its properties are changed. Residual extensibility decreases or, in other words, brittleness increases. More will be said about this under drawing and spinning.

In combing, this means moderate circle speeds of 3½ to 4 r.p.m.; feed-ends on the light side, about 6 oz. per 5 yd.; medium drafts, say from 1.8 to 1.9; careful dabbing so that the rayon is not packed in the base of the pins; and, finally, a draw-off by the coiler head that is just barely taut. This will produce a comb delivery averaging 2 oz. per 5 yd.

Within the limits given in the preceding paragraph, we have combed 5.5-den., 5-in. bright rayon staple fiber at the rate of 46 lb. per hr., producing clear top with only 2.6% of noils. No doubt this is but a starting point from which production could be increased and the noilage decreased, but most of our work is of a test nature where it is difficult to handle these small lots on the same basis as large production.

It is to be noted that rayon staple fiber as delivered contains no neps or short fibers that would be classed as noils. Therefore, the operations prior to combing are to be watched because the noilage and the number of neps are a barometer with which to gage fiber breakage.

(In the next article in this series, which will appear in an early issue, Mr. Smith will discuss finisher gilling and blending.—*Editor*)

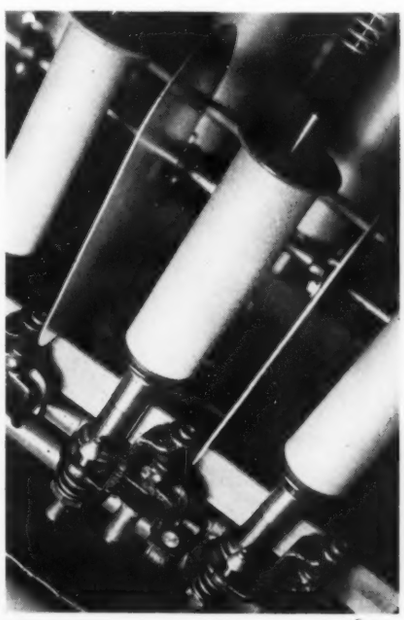
Throwing Rayon Yarn

By C. W. BENDIGO

THE CHANGEOVER from silk to Nylon to rayon brought several new problems to the throwsters of hosiery yarns. There was more warning of the changeover from silk to Nylon than of that from Nylon to rayon, but the second transition was achieved more easily. Most of the initial troubles have been overcome, with the exception of those involved in throwing high-twist hosiery yarns, which are generally considered necessary for a better product. Solution of those problems has been delayed considerably by the scarcity of rayon hosiery yarns, but they are being attacked vigorously.

There is no problem in putting high twist in rayon yarns, particularly with the fine deniers used for hosiery; but controlling the twist so that the yarn can be knit has been difficult to achieve. Until recently, at least, the best success has been obtained by use of waxes that are insoluble in water. These waxes do several things: they make the yarn slip excellently, both in throwing and in knitting; they prevent moisture from entering the thrown yarn and thereby swelling it and causing it to become lively; and they also hold the twist spirals after thermal setting.

These waxes are applied either in soaking the rayon before throwing or in the coning operation of the twisted yarn. In either method the wax is dissolved in a solvent, such as Stoddard's. In skein soaking use of such volatile solvents is advantageous, since few former silk throwsters have the drying capacity necessary after aqueous soaking of rayon. The skeins soaked in the wax solution dry out in less than an hour. Skein soaking is preferable, since the waxes used assist in the throwing operations. It is not practicable to insert high twist in rayons without the use of an agent to assist the filaments in orienting themselves to their new angles and pressures and to protect the individual filaments from breakage.



There is no difficulty in putting high twist in hosiery yarns, but controlling the twist has been a more serious problem.

Unfortunately, in many instances throwsters must take their yarns on cones, and it is not feasible to skein the yarn before soaking. Such yarn is best utilized in the lower twists, but medium twists can be inserted if the twist is bound by using a wax solution in the emulsion troughs of the cone winding machines. The yarn should then be set thermally, or, better still, in one of the conditioning machines that have been used for all rayon crepe yarns and generally for silk.

In interest of economy and safety, water-soluble waxes are being developed, and at least one brand is now on the market. Such waxes should simplify the hosiery dyeing and finishing operations. The chief drawback to water-soluble waxes is that they may necessitate either larger drying areas or drying equipment than many hosiery throwsters have available at present. Water-soluble waxes must not be too hygroscopic, or the rayon will become too lively following any appreciable increases of humidity.

Gelatine has been tried for some time for controlling high-twist hosiery yarns. It has been found, however, that if sufficient gelatine is applied to control the twist, a film is formed which will prevent high twisting if the gelatine is applied in soaking or which interferes with knitting if the gelatine is applied in coning.

CAKE THROWING. Throwsters are rapidly learning the few tricks necessary in handling cake yarns. Cakes can be likened to thick skeins of a very small diameter. However, unlike skeins, they lend themselves to winding by pulling the yarn off a stationary package, rather than by revolving. Due to their formation, cakes wind off better in one direction. The rule is to pull the thread off in a counter-clockwise direction with S initial twist, and clockwise for Z twist. The insert should be so coiled inside the cakes that the running yarn slides over the edge of the coil, rather than to strike against it. The pressure of the insert should be at a minimum, especially on the finer hosiery deniers. Broken ends are traced and found much the same as in skeins. The special devices generally used for winding from cakes can no longer be obtained. However, carpenter shops are supply-

ing the bases and centering cores; heavy paper makes good inserts; and saucers or fiber disks form the covers.

Shortly before the ban on use of Nylon for civilian use, many silk throwing plants had made expensive installations of Nylon sizing equipment, coning machines, and refrigerated rooms. Some were in the process of making such installations or had the materials when the ban came. But it has so happened that most of this equipment is now busy sizing or coning Nylon on commission so that that investment not only is paying for itself, but also is allowing throwsters to continue to develop this technique.

With the exception of sizing Nylon, and throwing a little of it, throwsters have not as yet been able to do as much as they would like to in the war effort. Plying strong rayons might develop, but so far is not of great consequence.

Knitting Full-Fashioned

By WILLIAM T. LEGGIS

A YEAR AGO when the ban on civilian use of silk became effective, the hosiery industry faced the prospect of employing rayon, cotton, and Nylon yarns for its entire production. This condition, however, was not long lived. In February, 1942, the Government contracted for the entire production of Nylon yarn and, as a result, shipments of Nylon to hosiery manufacturers stopped completely. By this time the industry had adjusted itself to these two great shocks and was extending every effort to produce comfortable, serviceable, and sufficiently sheer hosiery from rayon. Fine cotton yarns have proved completely successful only in mesh. For clarity of fabric and sheerness in the conventionally knit full-fashioned hose, rayon had to be used.

Each manufacturer has been awarded an allotment of rayon, monthly, based upon his silk yarn consumption during the first six months of 1941. The manufacturer never could tell in advance what deniers the yarn producers would or could supply. This condition made planned production almost impossible, as the range of yarn sizes suitable for full-fashioned hosiery ran from 50 to 150 den., and allocations of each type of yarn varied in poundage from month to month.

In the first allocations to the hosiery manufacturers 150-den. was in abundance, and the more desirable deniers, 75 and 100, in very limited quantities; 50- and 65-den. rayons were supplied in negligible quantities. In the succeeding months rayon manufacturers made gradual conversions of their spinning facilities to the finer deniers.

Previous to the ban on raw silk, little, if any, 150-den. rayon had been used in the full-fashioned hosiery industry. During the last few years a great number of manufacturers had gained considerable experience in the use of 100-, 120- and 125-den. rayons for welt and foot reinforcements of silk full-fashioned hosiery. These rayons, intelligently knitted, yielded an acceptable silk hosiery construction which enjoyed considerable popularity in the lower-priced range. However, 125-den. rayon was considered the heaviest yarn which could be used in the welt of a 3-thread silk construction in 42- or 45-gage. Although 125-den. rayon is approximately two times as heavy as a 6- or 7-thread silk welt, the fabric bursting strength is approximately the same, as is evident from the following table.

Several basic types of rayon hosiery have been developed which can be reproduced with the types of yarn now available to the industry.

Mullen Burst Tests: Welts 42 Gage

6-thread silk.....140 lb. per sq. in.
120-den. rayon.....120 lb. per sq. in.
100-den. rayon..... 95 lb. per sq. in.
150-den. rayon.....150 lb. per sq. in.

EXTREME SHORTAGE of fine-denier rayons has forced manufacturers to utilize 150-den. rayons for welt construction in all gages from 42 up as high as 48 gage, reserving the 100-den. for chiffon boot constructions. By means of proper twist and stitch setting, a presentable and serviceable welt can be made of 150-den. rayon. Use of laces or excessive loose courses should be avoided in rayon welts, since these tend to weaken the fabric strength.

Certain basic constructions of hosiery have been evolved which can be reproduced with the types of yarns available. These are as follows:

Service Construction: 150-den. rayon twisted 10 to 15 turns; knit on 42-gage machines; these constructions are offered with and without cotton foot reinforcements and welts.

Chiffon Constructions: 100-den. rayons with twists varying from 15 to 30 turns in the boot; welts are usually 150-den. twisted 8 to 10 turns, knit on either 42-, 45- or 48-gage machines. 75-den. rayon with twists varying from 20 to 40 turns in the boot; welts are usually 150-den., 8 to 10 turns for 42- and 45-gage constructions. Welts for 48- and 51-gage constructions usually are 100-den. with 10 turns.

Sheer Chiffons: 65- and 50-den. rayons knit exclusively on 51-gage machines; twists range from 20 to 45 turns; welts, 100-den. with 10 turns.

On all rayon construction it is advisable to reinforce at least the toe with mercerized cotton.

ACETATE HOSIERY. During the last two or three months, with the supply of fine cottons being further curtailed, and with the many rumors of curtailment of rayon allotments to hosiery manufacturers, because of increased Governmental needs, many manufacturers have turned to acetate rayon as a possible substitute for the viscose types. A good deal of experimentation has been going on with the acetate yarns and some stockings of excellent appearance have been produced. However, to date few, if any, manufacturers have successfully ironed out all the manufac-

turing difficulties encountered with this type of yarn.

Several sizing treatments have been developed which greatly improve the knitting characteristics of acetate rayons. Acetate rayon is somewhat weaker than viscose rayon when dry, but acetates have the advantage of losing less strength when wet. This fact enables acetate yarns, properly treated, to be knitted moist on full-fashioned machines. In fact, in many instances it is necessary to run the yarn over a wet felt, and even through a water trough, in order to make a satisfactory clear stitch.

It has also been determined that a pre-steaming at about 212 to 215° F. before dyeing greatly improves the appearance of the finished product. Some experimenters have reported that the steaming operation has worked out well if done after dyeing. Excessive steaming temperatures must be avoided, since the strength of the acetate yarn is seriously affected. Dyeing temperature is recommended at 170 to 180° F., but the writer has successfully dyed acetate rayon hosiery at as high a temperature as 200° F.

In the opinion of the writer the various difficulties now being experienced by the hosiery manufacturer will soon be ironed out, and in the not-too-distant future sizeable quantities of acetate hosiery will be produced.

Improving Seamless Hose

RAYON SEAMLESS HOSIERY must be made more desirable to Miss and Mrs. America, or bare legs and "cosmetic stockings" may better suit their style sense and pocketbook. This better-hosiery-or-else challenge means that the best in style, feel, and wear must be given rayon hosiery. Major improvements in rayon seamless hosiery are sure to come after the war, through the use of rayon yarns especially designed for hosiery; and refinement of rayon throwing, knitting, and finishing techniques. Meanwhile—regardless of the fact that Nylon, strong rayons, and rayon twisters are needed for military essentials—a number of encouraging improvements are being made.

Seamless hosiery manufacturers are improving their rayon hosiery now by keeping their machines cleaner and in better operating condition; by working with the throwsters to secure rayon yarns with special twist and size treatments to make hosiery sheerer, more run-resistant, and easier to knit; by bettering the wearing and laundering qualities; and by trying to stop the tendency of the hose to lose its shape, through better styling and the applications of special finishes. Advertising and retail channels are furnishing the consumer with instructions on how to buy more wisely and launder correctly.

Rayon yarn improvements suggested recently are: standardization of the definition and degree of "dullness" by the various rayon producers, development of deniers especially for the seamless hosiery trade, production of large spinning lots to provide uniformity, and standardization or elimination of oil content. Already cuprammonium

Use of high-twist yarn permits production of seamless hosiery of superior quality.

yarn, spun in large lots is being offered, in a medium luster, free from oil, and without twist.

By the addition and setting of twist throwsters can improve rayon yarns and thereby assist the knitter in obtaining increased hosiery sheerness, resiliency, and snag resistance. American Viscose Corp. has demonstrated in its experimental Textile Unit that circular hosiery knit with extra-twist rayon yarns is superior in many ways to the stockings formerly knit from yarns with only the twist as received from the producers. Twists used should not be so high as to impair strength or extensibility; and it is important for the throwster and knitter to cooperate in development of twists best suited for conditions met in individual mills.

KNITTERS of rayon seamless hosiery are endeavoring to produce better quality stockings that are not imitations of full-fashioned hosiery. One of the latest developments is a no-seam, bare-leg rayon hosiery made in a similar construction to Nylon no-seam hosiery. Fine-denier rayons and knitting machines with a large number of needles are usually employed for this type of stocking. Machines of 320 needles or finer produce the best grades. There are a few manufacturers, particularly those using the latest 400-needle machines, who are adding twist to the rayon and are obtaining an excellent product.

Some knitters are imitating full-fashioned hosiery by the addition of mock seams and a tuck-stitch fashion mark. Since circular hosiery can be shaped by controlling the size of the stitch from the ankle to the welt, more attention should be given to the knitting techniques to improve the shape and feel. Two types of stitches are being employed to a limited extent in England for producing run-proof and ladder-proof seamless hosiery. One is a so-called coiled loop stitch, and the other is another special loop structure.

A number of knitters have been using three-feed circular machines to produce ringless silk stockings; and there is a possibility that these machines can be used for rayon hosiery.

Knitters of men's half hose are substituting a double thickness of ribbed fabric for the former elastic top made with rubber yarns. Slacks and anklets are being made with standard ribbed tops. Short tops and short-length hosiery are being adopted to conserve scarce yarns. Knitters of men's acetate and cotton hosiery find it necessary to change acetate denier specifications in order to make use of deniers available to them. To meet this condition, imposed by the limited supply of acetate rayon, operating and cost procedures must be adjusted to the use of several different deniers in a style. Spun acetate rayon may serve as a substitute when filament yarns are no longer available.

DYEING IMPROVEMENTS include more careful formulation of boil-off baths to remove oil and size uniformly; and test dyeings on yarn lots, before knitting, to determine whether or not lots can be mixed. It is asserted that the size put on the yarn by the throwster adds to strength and the wearing qualities of the hosiery, and, for this reason, it may be desirable to leave some size in the hosiery.

Nylon hosiery required a preboarding operation just previous to dyeing;

this operation not only smoothed the hosiery, but fixed its shape permanently. Viscose rayon does not have the thermoplastic qualities of Nylon, and, therefore, boarding is merely a pressing job after dyeing. Since seamless hosiery largely depends upon the boarding operation to set the shape, there is a possibility that special finishes compounded with thermoplastic resins, and applied at a preboarding operation or in the dyebath, may be found to assist in retaining the shape of rayon hosiery indefinitely. Other finishing compounds may be found to make the hosiery water repellent, more resilient, and snag-proof. Acetate rayon may prove successful in seamless hosiery, as acetate can be set to a much greater extent than other types of rayon.

Dyeing Uniform Cloth

By PHILIP LeBRUN

UNIFORMS for use by women in civilian defense work must be able to withstand more severe service than suitings intended for ordinary use. At home it is a rare occasion when an adult's suit is washed with soap and water. However, a uniform may be washed quite often during its useful lifetime. In addition to being washable, a uniform fabric must be fast to light and perspiration, and preshrunk to a residual shrinkage of 2% or less.

One type of uniform fabric is a blend of 50% viscose rayon and 50% rayon acetate. The fabric weighs approximately 33 to 35 lb. per 100 yd. Contrary to the practice followed with most fabrics of this weight, full-width scouring is not necessary. Instead the cloth is loaded directly on to the dye beck. The latter is filled with water at a temperature of 90 to 100° F. A typical scouring formula consists of about 2 lb. of fatty alcohol sulphate and a similar amount of soda ash per each 500 gal. Loading the cloth into water which has been warmed to the temperature recommended above helps to prevent the formation of break marks and crows'-feet.

After scouring at 180° F. for 30 min., the material is usually clean enough to allow the dyer to proceed with his dyeing. A few dyers saponify the acetate by increasing the alkalinity and temperature and thus make the dyeing of the fabric much more simple. This practice, besides being unethical, causes the material to lose in weight and finish "thinner."

Most of the cloth under consideration is dyed into three shades: khaki, light navy, and a grayish blue. Since all of these shades are fairly dark, bleaching is unnecessary. For the same reason, a thorough wash after scouring is unnecessary. Cold water is added to the scouring bath until the temperature drops to 120° F. The previously dissolved dyes are then added and the dyeing proceeds.

THE ACTUAL DYEING METHOD does not differ from that employed for union dyeing at any rayon-acetate fabric. However, the dyer must be careful in his choice of dyes. The following dyes have proved satisfactory in practice, although they are not necessarily the only dyes suitable for this particular type of work.

Viscose Rayon Dyes: Benzo Fast Yellow RL (C.I. 349a), Chloramine Yellow (C.I. 814), Solantine Fast Yellow WB, Benzo Fast Blue 4GL (Pr. 26), Solantine Fast Blue 2GL, Pontamine Fast Gray BL, Solophenyl Grey 4GL, Solophenyl Blue BB, Diazo Blue BR, Benzo Fast Pink 2BL (C.I. 353), Chlorantine Fast Brown BRL (Pr. 47)—for shading only; Pontamine Fast Brown 2RL—for shading only, Pontamine Diazo Green BL, undeveloped—for shading only.

Acetate Dyes: SRA Golden Yellow XII, SRA Golden Yellow XIII, Celanthrene Fast Yellow GL, SRA Violet Blue FSI, Celliton Fast Blue IFG, SRA Red VI X, Nacelan Pink B, SRA Orange FSI.

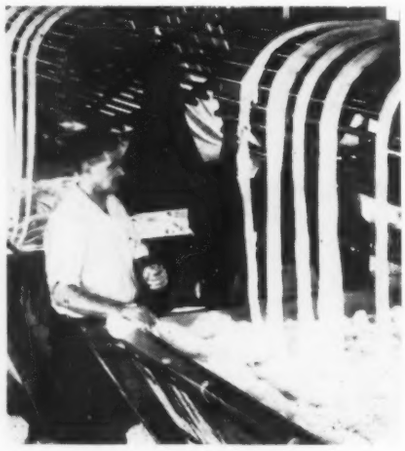
Certain navy shades can also be obtained by developing Cellitazol BN and Cellitazol RB fine soluble together with Diazo Blue BR.

Use of proper dyes is not sufficient of itself. After dyeing, it is usually advisable to soap the cloth thoroughly at a temperature of 130 to 140° F. This removes all surplus color and also lightens the depth of shade slightly. The change in depth must be offset in advance by the dyer, who should let the material dye up somewhat heavier than is required before the final soaping. A thorough rinse completes the dyeing operation. Cloth soaped in this manner will not change markedly because of any manual washing to which the garment is likely to be subjected.

The material may be given a light hydro-extracting after dyeing to remove excess water. Long or excessive centrifuging will cause sharp breaks in the fabric. Better still, the cloth may be opened up to full width and passed over a vacuum extractor. The goods are then passed through a two-roll mangle. The latter is equipped with a size pan containing a mixture made up with approximately 12 lb. of soluble starch and 2 lb. of sulphonated olive oil (50% fatty acids) to 50 gal. The cloth is kept from wrinkling as it goes through the mangle by means of an expanding spreader before the nip.

Finishing wet increases production by eliminating one drying operation. Also it prevents the stretching which always results when a cloth passes through the usual finishing processes. The fabric is framed as loosely as possible after drying. That is, the cloth is fed into the tenter frame, using no tension block or other similar device on the entering end. To set the material and remove all traces of crows'-feet, the fabric is given a final pass through a decatizing machine.

Cloth processed as described above will have a light fastness of 40 hr. Fade-Ometer or better, and a satisfactory wash fastness at 120° F. The residual shrinkage will be 2% or less.



Scouring for 30 min. at 180°F is usually sufficient to prepare the fabrics for dyeing.

Warmth and Wearing Qualities

Of spun rayon and wool blended fabrics disclosed by extensive series of tests

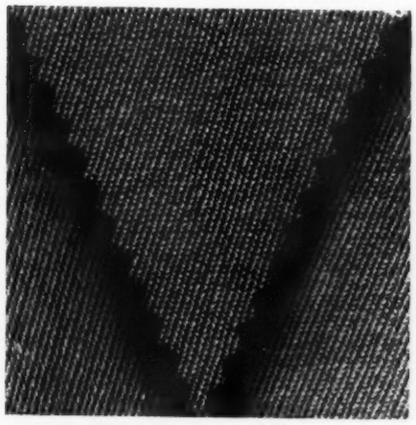
By K. B. COOK
Vice-President, Manville Jenckes Corp.

FOR SEVERAL YEARS NOW we have been making fabrics for the men's and women's wear trade made out of various combination of wool, spun rayon, and cotton, the percentages of wool in these fabrics varying from a minimum of approximately 8% to a maximum of approximately 40%. Millions of yards of these fabrics which have been produced indicate beyond any question the general acceptance of this fabric in the trade, and we believe that these blended fabrics with small percentages of wool are acting as practical and acceptable substitutes for fabrics with higher wool content.

This article is prompted by the general lack of understanding in the trade as to the warmth and wearing qualities of fabrics made from yarns blended with spun rayon and wool. There have been many statements made recently to the effect that fabrics containing less than a certain amount of wool really have no warmth value and that the use of wool below a certain percentage is therefore wasted.

We recently had a large series of warmth tests made by a leading testing company, on a range of fabrics in two different weaves with various fiber contents, as indicated in Table I.

WARMTH TESTS were made on test specimens suspended in a conditioned room (70°F. and 65% relative humidity) for a period of at least 48 hr. preceding the test to insure a uniform condition of fiber arrangement and moisture content, as well as removal of all folds and surface irregularities. Tests were made with an apparatus of the guarded hot-plate type. Specimens to be tested were removed from the conditioning room and laid flat without tension upon an electrically heated copper plate which had been finished to have heat loss characteristics identical with those of the human skin. Guard plates maintained at the same temperature as the hot-plate were arranged to prevent extraneous heat losses. Thermostats were provided to control the input energy to the various plates and to operate suitable electrical instruments for measuring the heat that passes through a known area of the specimen. The temperature controls were adjusted to hold the plates at the exact temperature of the human skin so that each sample was tested with the inner warm side under a condition identical with that of actual use.



Three of the cavalry twill fabrics

For still-air tests the sample was covered and held in place on the plates by a copper hood which conducts the heat to the outer air. Moving-air tests were made with the sample held at the edges by a retaining ring so that the outer surface was exposed. The plate assembly, hood or retaining ring, and the sample were then slipped into an insulated, recirculating air duct system which accurately maintains the air in the hood or over the sample at a constant temperature, humidity, and velocity. These conditions were controlled by heating and cooling units, air flow, measuring devices, etc., which are mounted in the air stream. The values of the various factors as used in the test are indicated in the data tabulation.

The test data give a direct measure of the heat flowing through the sample under the conditions of the test. That is, the heat passing through 1 sq.ft. of sample surface area in British Thermal Units in the time of 1 hr. for each Fahrenheit degree of temperature difference maintained on opposite sides of the specimen. For the purpose of interpretation, this quantity is converted into a coefficient which is directly proportional to the heat-retaining capability of the sample. The larger the coef-

Table I. Results of warmth tests.

Sample	*Weave*	*Wool %*	*Rayon %*	*Cotton %*
Group 1				
A	Gabardine	100	0	0
B	Gabardine	68	0	32
C	Gabardine	20	50	30
D	Gabardine	8	62	30
Group 2				
E	Cavalry Twill	100	0	0
F	Cavalry Twill	70	0	30
G	Cavalry Twill	30	38	32
H	Cavalry Twill	20	48	32
I	Cavalry Twill	8	60	32

Table II. Before and after dry-cleaning

Sample	*Original*		*After 5-dry-cleanings*		*Change in warmth coefficient due to dry-cleaning*	
	Test 1 Still air	*Test 2 6 m.p.h.*	*Test 1 Still air*	*Test 2 6 m.p.h.*	*Test 1 Still air*	*Test 2 6 m.p.h.*
Group 1						
A	630	376	705	432	75	56
B	650	394	715	453	65	59
C	632	357	685	403	53	46
D	650	360	673	391	23	31
Group 2						
E	642	403	710	476	68	73
F	652	390	700	450	48	60
G	650	406	710	432	60	26
H	676	412	700	439	24	27
I	648	391	688	417	40	26

ficient for a single test condition, the warmer is the sample.

If several tests are made to include different conditions of use, these coefficients are combined to give a final comparative coefficient which expresses the warmth of the sample to be expected in actual service.

The performance of any fabric in a warmth test is greatly influenced by the environmental conditions both prior to and under which the test is made. Thus, the results of a single test are significant only for the particular treatment given the sample preceding or during the test.

In order to secure results that indicate the performance of suiting material, it was necessary to make two tests as detailed below:

Test 1—The warm side of the sample is maintained at 93°F., while the outer side is exposed to still air at a temperature of 43°F.

Test 2—With the warm side maintained as before at 93° F., the outer side is exposed to a gentle current of air directed perpendicularly to the surface. The air temperature is held at a constant value in the range of 43°F. and its velocity adjusted to 528 ft. per min.

DRY-CLEANING PROCEDURE. The samples were worked 25 min. at room temperature in a laboratory dry-cleaning apparatus containing a solution of 1000 parts Stoddard's Solvent, 67 parts of dry-cleaning soap, 4 parts of distilled water, and 4 parts of tertiary butyl alcohol. They were then worked in the machine in Stoddard's Solvent without dry-cleaning soap, water, or alcohol. They were finally squeezed, and allowed to dry at room temperature on a horizontal ventilated screen.

The samples were subjected to five of the above dry-cleaning procedures in order to bring out the effects of differences in construction, composition, finishing, etc., which are important when the samples are subjected to use. Table II shows test data and results based on the foregoing description.

Group 1 samples as indicated in Table I are of gabardine weave and all of approximately the same weight and construction. Group 2 are of cavalry twill weave and also approximately the same weight and construction. It will be noted that there is very little difference in warmth value between any of the original samples before dry-cleaning. After the fabrics were submitted to five dry-cleanings, it is noted that all samples increased in warmth and some samples increased slightly more than others. The fact that shrinkage took place in all instances due to the dry-cleaning treatments resulted in a more condensed fabric, accounting for the increase in warmth. The dry-cleaning solution used in these tests is the same as that used in a commercial dry-cleaning house, although these laboratory tests are a little more strenuous and the cleaning action is more thorough. The percentage increases in weight due to the dry-cleaning shrinkage are shown in Table III.

The tendency of wool to produce a lofty yarn and also to maintain its resiliency after being subjected to dry-cleaning treatment accounts in part for the greater increase in warmth in the samples containing the larger percentage of wool. It is apparent, however, that all the samples listed in Table II even after dry-cleaning possess average warmth-retaining qualities.

It is thus clear that the thermal transmission does not depend upon the kind of fiber in the fabric, but rather on the construction, thickness, etc. The structure of the fabric plays a considerable part when used in a current of air. For instance, a current of air can sweep out some of the entrapped air in a fabric very much easier with some constructions than others. Thus, a sweater may be a good insulator in still air, but not in a wind.

The "American Wool Handbook" first edition 1938, contains an article on heat-retaining qualities, and states that the latest research claims that wool, silk, cotton, or rayon can make fabrics of equal warmth when new and of identical thickness and construction.

Table III.
Increase in weight of samples after dry-cleaning.

Sample	*Increase in weight*	*Sample*	*Increase in weight*
Group 1		*Group 2*	
A	.58%	E	1.04%
B	.34	F	1.30
C	2.6	G	.29
D	3.1	H	1.57
		I	1.22

Table IV.
Results of abrasion tests

Sample	*Percent wool*	*Number of single strokes*
Group 1		
B	68	3400
A	100	1500
D	8	1200
C	20	1200
Group 2		
H	20	2750
G	30	2700
I	8	2200
F	70	2000
E	100	1600

Warmth is largely due to the amount of enmeshed air held by the individual fibers in yarns making up the construction.

In the August, 1941, *Journal of the Textile Institute* there is an interesting article on the transmission of heat through textile fabrics, and the conclusions reached are the same as we have found in our recently completed series of tests. The warmth of fabrics must not be confused with the "cold feel" of fabrics, which is an entirely different thing. This characteristic varies markedly in different fabrics and is an important feature as regards comfort in putting clothing on next to the skin. In this instance the rougher or fuzzier the cloth is, the warmer it feels; and the smoother and slicker a cloth is, the colder it feels. This is why linen sheets always feel so cool.

ABRASION TESTS. We had abrasion tests made on the U. S. Testing Co., Inc., abrasion wear test machine. Specimens clamped to a movable carriage were constantly in contact with a lever arm covered with fine Aloxite cloth which exerted a pressure of approximately 33 oz., or 1.03 lb. per sq. in. In Table IV is shown the number of single strokes the samples received in both warp and filling directions and the order in which the samples are rated as far as their abrasion or wearing qualities are concerned. The number of strokes indicates the point at which all samples had received approximately the same degree of wear.

There is very little difference in wearing qualities between the piece made from 100% wool and that containing 8% wool. The piece containing 68% wool shows practically double the wearing qualities, due to the fact that this piece has been treated with a water-repellant finish, whereas the other gabardine fabrics were not. The addition of such a finish will increase the wearing qualities to a large extent.

With regard to the cavalry twill fabrics, it will be noted that the pieces with the lower wool contents, such as the 20, 30, and 8, show better wearing qualities than those with the higher wool content, such as 70 and 100%; in fact, in this instance the 100% wool fabric shows the poorest wearing qualities.

In conclusion, it would appear from the foregoing tests that blended fabrics containing low percentages of wool have a real place in the clothing field for use in both men's and women's wear, and especially important is this fact during the present emergency when we are trying to make a pound of wool go as far as possible.

TEXTILE EQUIPMENT NEWS

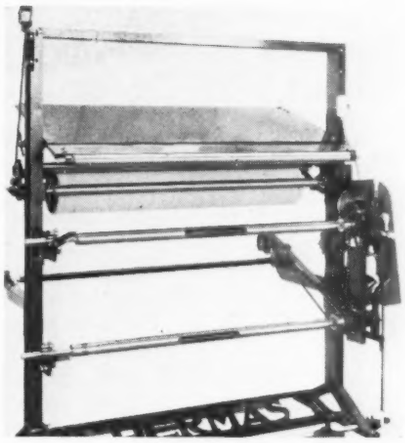
Parachute Fabric Inspection Machine

An inspection and measuring machine intended for the examining of rayon and Nylon parachute fabrics, has been developed by Hermas Machine Co., Hawthorne, N. J.

A feature of this machine is a tilting inspecting table, 24 in. from front to rear, to aid the inspector in viewing the cloth as it passes over the table top. Within view of the operator is a yardage counter. Worm and gear variable speed drive driven by a ¼ hp. motor provides power to the machine. A reverse wind permits the material to be wound onto the original roll or tube if desired.

Inspection of parachute cloth requires that all defective cloth, or seconds, be severed and wound on a separate take-up roll, hence two different take-ups are required. Each take-up is of the gripper key type for holding paper tubes and consists of a steel tube with a floating key in the center. These take-up tubes are driven through a universal joint that is connected to the drive head so that the operator need not remove the entire take-up each time a piece has been inspected. The tube of cloth is simply slid from the take-up bar to the left and as it is removed from this take-up bar the bar drops onto a catcher and is ready to receive the second tube.

The extra take-up is furnished on which to wind seconds. The operator, while inspecting, winds the fabric onto the first or upper take-up until a defect appears and if it is necessary to cut out this defect, that portion of the roll which is defective is wound onto the second roll or take-up. It has been stated that the use of the double take-up reduces the time normally consumed in inspecting parachute fabric.



Machine designed for inspecting parachute fabrics (Hermas)

FOG ONCE INSIDE NOW OUTSIDE DYEHOUSE

ELIMINATION OF FOG in the dyehouse of the Hespeler, Ont., plant of Dominion Woollens & Worsteds, Ltd., was brought about by curtain walls which were dropped from the ceiling to form canopies over kettle areas, venting to the roof. Warm air obtained from neighboring dryer rooms, or from outside after passing through blast coils and forced in near the ceiling in non-vented areas, takes care of steam conditions and reduces general humidity. Storm sash on the windows during the winter season stopped fog from this source. The kettles formerly drained onto the sub-floor and from there into a tail race under the dyehouse. The construction of closed drains from all kettles and the closing of all openings to the tail race corrected sub-floor conditions.

Inventory of Second-hand Machinery Taken by OPA

Inventory of all second-hand machinery held for sale is being taken by OPA. Intended to supply WPB with a list of available equipment, it will also locate obsolete machines.

The listing includes all forms of textile machines, electric motors, electrical equipment, pumps, etc., and all second-hand and all rebuilt machinery in the possession of dealers and new machinery manufacturers. The reports are to be filled and returned to OPA within 10 days following receipt of the forms.

Measurement of Reflectance and Color

A photoelectric reflection meter designed for measuring reflectance and color of fabrics has been designed by Photovolt Corp., 95 Madison Ave., New York.

The search unit is placed on the surface to be measured, and as this unit is connected to the instrument by a flexible cable, measurements may be made of fabrics while they are actually in a processing machine. Three color filters, red, green, and blue are furnished to improve the spread of readings so that differences hardly perceptible to the eye are registered.

The instrument is contained in a portable housing and may be operated

on alternating current, or by two dry-cell batteries housed in the case.

Because the instrument is portable, it is ideal for use in weathering tests as the test may be made under normal atmospheric conditions.

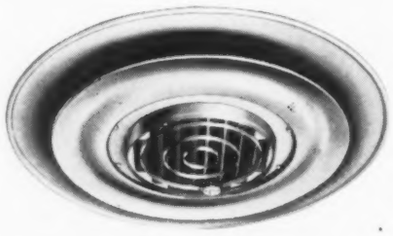
Rubber-Covered Rolls Under WPB Order

Specifications issued by WPB, Aug. 15, cover the manufacture of rubber-covered rolls for the textile industry. Amendment 15 to Order M-15-b-1 specifies that the maximum thickness of rubber covering on rolls for dyeing, bleaching and finishing machinery shall not exceed $\frac{5}{8}$ in. for top rolls on flat goods and $\frac{3}{8}$ in. for bottom rolls. Top rolls for goods in rope form shall not have a thickness of over $\frac{3}{4}$ in. and bottom rolls over $\frac{3}{8}$ in. For other services, including jig, beam, immersion guide, and where protective covering against corrosive chemicals is required the roll shall not exceed $\frac{1}{4}$ in. in thickness. Rolls in wool scouring machines may be made to existing dimensions.

Thermostatically Controlled Venturi-Flo

A thermostatically controlled Venturi-Flo meeting the need for overhead type air diffusers in year-round air conditioned spaces with high ceilings, has been announced by Barber-Colman Co., Rockford, Ill.

For extreme mounting heights these diffusers are ideal for combined heating and cooling installations which require that the outlet be mounted 25 ft. or more from the floor. A thermostat in the supply duct controls the blades in a multi-vane damper located on the underside of the unit. For cool air, the damper is closed, and all of the air is diffused in a conical pattern which covers the floor area the diffuser is designed to serve. When the air is at ventilating temperature, the damper assumes an intermediate position thereby forcing part of the air toward the floor. One thermostat in the fan system will control a number of air diffuser units. To overcome the natural tendency of warm air to rise, the dampers are fully open and the main body of supply air is forced directly downward toward the floor. High temperature gradients between ceiling and floor are eliminated.



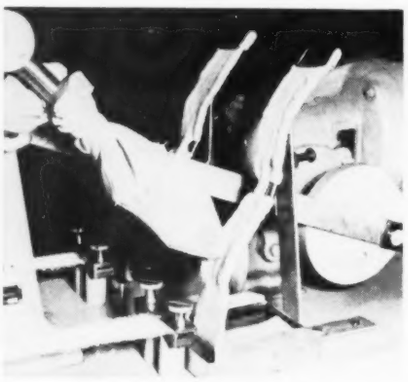
Venturi - Flo thermostatically controlled (Barber-Colman)

Radiant Heat Generator

A radiant heat generator has been developed by Carbomatic Corp., 1775 Broadway, New York, utilizing the potential heat energy of any illuminating gaseous fuel for the production of infra-red rays (light energy). This heat energy can be regulated to give any desired temperature from 125 to 2500° F. for the purpose of drying, curing, or polymerizing all textile materials, such as rayons, acetates, cottons, and wool fabrics. It is said to be particularly applicable in the treatment of textiles with synthetic resinous materials, the newly developed pigment dyes, and mildewproofing agents. It can also be used for singeing and warp drying. The equipment can be installed in connection with the present plant set-up, and can be placed in any position — horizontal, vertical, or inverted. It is designed to speed up production and reduce drying costs.

Hosiery Abrasion Tester

Testing of hosiery for wear under moist conditions may be made with a hosiery abrasion tester developed by United States Testing Co., Inc., Hoboken, N. J. Developed to measure the resistance to abrasive wear of the heels and toes of all kinds of hosiery, the machine is used by mounting the toe caps or heels of the samples over a metal surface and causing them to oscillate mechanically back and forth in contact with the wearing surface of a special hosiery abrasion fabric held under constant tension. The number of strokes necessary to wear holes in the toe caps or heels is noted and recorded. To simulate wear under moist conditions, a wick, immersed in water, is so placed that a slight contact is made between the wick and the sample at the end of every second stroke. The machine is equipped with a spring arrangement so that all test samples will be held in place at the same uniform tension.



Hosiery abrasion tester (U. S. Testing)

Wood Lockers and Cabinets

Wood is substituted for steel in lockers, cabinets and shoprobe cases for holding clothing which were recently developed by Lyon Metal Products, Inc., Aurora, Ill.

Portable shoprobes provide full length coat hanging space and a private locking compartment at a convenient height for each employee. Shoprobes are especially suited to industries in which personnel fluctuates and low storage cost is required as a 20-person unit, double faced, required only $13\frac{3}{5}$ square feet of floor space.

Lockers have a hardwood top, bottom and frame. The sides, backs and doors are of pressed wood. Doors con-

NEW WOOD SASH

GOVERNMENT RESTRICTION on the use of steel has brought about an entirely new type of wood sash, called Victory sash. Albert Kahn Associated Architects & Engineers, Inc., Detroit, Mich., who developed the new sash, states that it will serve for industrial and other buildings quite as well as standard steel sash. In order that the new sash may be available to all architects, engineers, and contractors engaged in designing and building war production plants, the Albert Kahn organization has waived all patent rights to the development.

sist of two panels of pressed wood mounted on a hardwood frame. These lockers are in five stock sizes—four single tier and one double tier.

Tops, bottoms and frames of cabinets are hardwood. Backs and sides are pressed wood panels. Doors are made of two pressed wood panels mounted over a hardwood frame and attached with three tight-pin hinges. Lyon cabinets are offered in three types—storage, wardrobe and combination—and in two sizes: 36x18x72 in. and 36x24x72 in. All of the above units are finished inside and outside in green enamel.

Useful Accessories for Textile Mills

An incandescent Millite luminaire, a light developed for use in dye houses and chemical plants with high or low bay areas has been announced by the Westinghouse Electric & Mfg. Co., Lighting Division, Cleveland, O. as being especially adapted wherever acid fumes, dust, smoke or excessive moisture is present. Because of its weatherproof construction, the unit can be used satisfactorily for outdoor applications. Consisting of three parts, a porcelain enameled steel reflector available in several sizes, a socket assembly, and a hinged glass cover, the unit is arranged for conduit mounting. Reflectors are available in 300, 400, 500, 750, and 1000-watt sizes. Vapor-tight sealing is obtained with a heavy, treated asbestos gasket between cover and housing. An impact-resisting glass lens ¼-inch thick is designed to withstand sharp temperature changes and if broken, shatters into small dull fragments rather than splitting into large pieces.

A powerful, portable demagnetizer for demagnetizing tools, drills, punches, dies and work held in magnetic chucks has been announced by Ideal Commutator Dresser Co. Abrasive particles, such as metallic dust, flakes, fine chips, etc., are said to be easily removed after a single pass across the magnetic poles. After the tool or part is demagnetized, it can be laid on a bench or shelf without again attracting nearby metals.

Excess film and dirt caused by heavy, continuous power loads can be easily and quickly removed from commutators with a new cleaning stone, it is stated, by the same company. The stone cleans while the motor or generator is running and is used by simply holding it against the commutator and slowly moving across the face. It does not clog nor cut the commutator, but cleans film from the brush seats and helps to reseat brushes.

Mill Maintenance Section

Correcting Uneven Commutator Wear

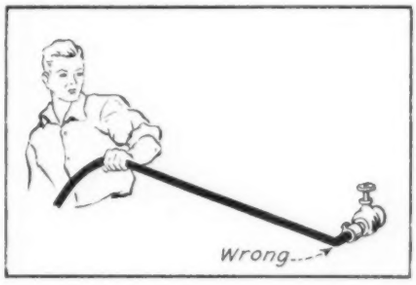
On slip rings and commutators of electric motors, wear is accepted as inevitable—just as it is on the tires of a car. Wear on commutators and slip rings, it is pointed out in "A Guide to Wartime Care of Electric Motors," issued by Allis Chalmers Mfg. Co., can be minimized by preventing conditions leading to grooving. On commutators and slip rings smooth and even wear is slow wear. Dust is an abrasive agent and should be wiped off the surfaces of slip rings and commutators at regular intervals. A film of oil should not be permitted to collect on their surfaces as it catches dust and prevents proper contact with the brushes.

If the surfaces of rings or commutators are found to be rough or otherwise uneven, the condition should be remedied at the first opportunity before it can invite grooving, pitting, sparking and increasingly accelerated wear. Often the best way to smooth a surface is to run the rotor at normal speed in its own bearings using a commstone in a suitable holder held against the commutator or slip rings. When commutators are turned down, the mica separating bars should then be undercut to a depth of about one thirty-second of an inch. In fact, mica should always be undercut when high or even level so as to forestall excessive brush wear and sparkling.

On the other hand, brushes themselves can contribute to excessive wear. When worn unevenly, they should be trued or replaced with a new set before they can damage the slip rings or commutator. To assure maximum, smooth contact, new brushes should be sanded in to the proper arc.

Care of Hose

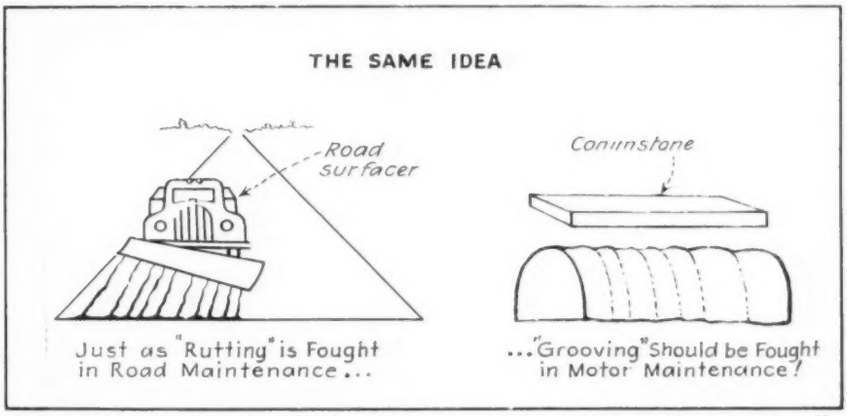
Priorities, rubber shortage, etc., makes mandatory that rubber hose as used in dye houses and wet finishing rooms receive proper care. All suggestions contributing to hose life should be welcome.



Never pull a hose at right angles to outlets; always leave sufficient slack to eliminate sharp bends.

A booklet on industrial rubber conservation, offered by Goodyear Tire & Rubber Co., Akron, Ohio, suggests that where much flexing occurs at the fitting, or where the hose is required to withstand a considerable amount of jerking, the clamps used in connection with the fitting should extend back on the hose at least as far as the end of the shank.

In this way the hose is better sup-


THE SAME IDEA
Road surfacer
Just as "Rutting" is Fought in Road Maintenance...
Commstone
..."Grooving" Should be Fought in Motor Maintenance!

Commutator wear is likened to road wear. As roads must be occasionally scraped to prevent rutting, so must commutators be stoned to remove grooving.

ported and the extreme stresses which otherwise might occur, when bending the hose around long shanks, may be eliminated. This condition of having the clamps as long or longer than the shank is obtainable with many of the interlocking type of couplings or is also obtainable with long ferrules used in connection with short shank couplings.

Rubber hose should not be used continuously at right angles to wall connection as the end of the fitting shank eventually will fracture the hose and cause premature failure.

Reduce Heat Losses with Insulation

Look for inefficient or insufficient insulation as a possible cause for serious water hammer in steam lines, is a recommendation made in Good Operating Practices, published by Johns-Manville Corp., 22 E. 40th St., New York, under the subject of good practice for using insulations.

Other recommendations suggested as possible ways of reducing heat losses are 1. Make certain that the insulation fits snugly around the pipe. 2. Replace all covering as carefully as though it were a new insulation. 3. Protect insulated lines exposed to either strong alkali or acid fumes. 4. Signs of failure in canvas coverings are oftentimes due to the pipe covering loosening from the pipe.

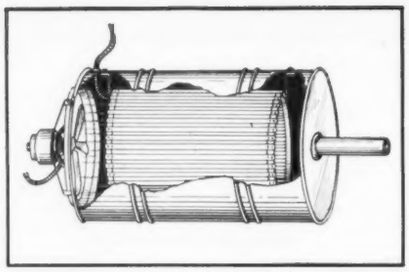
Shown in accompanying table are examples of unit losses and savings made by insulations which graphically illustrate the importance of insulation maintenance. Data are based on equipment operating 24 hr. a day, 309 days a year in a still air temperature of 75° F.

How to Dry Transformers

Damage to transformers by floods requires cleaning of the insulation and drying before using. Accumulation of dirt and oil requires a cleansing treatment to remove these deposits and a drying of the insulation to remove practically all moisture. External heating of transformers, when used for drying, must not exceed an air temperature of over 125° C.

An emergency drying apparatus, according to Maintenance Hints, Vol. 1, published by Westinghouse Electric & Mfg. Co., may be improvised from an oil drum covered with several layers of asbestos paper, as illustrated. Cut out one end or head and in the other end cut a hole of sufficient size to connect a piece of stove pipe from the drum to the lower valve opening of the transformer tank. Fasten 20 space heaters, 500 watt, 30 in. long, 1½ in. wide, to two 10 in. outside diameter steel hoops and suspend this heater assembly in the drum, which should be placed in a horizontal position near the transformer tank. Support a 16-in. exhaust fan at the open end of the drum. A standard 12 in. office fan may be used.

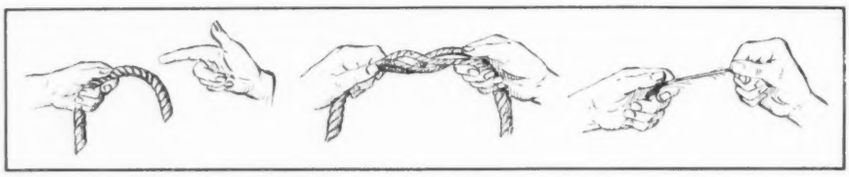
The heat may also be obtained by direct combustion, but it is essential that none of the products of combustion be allowed to enter the transformer case. Heating the air by combustion is not recommended except as a last resort.



Transformer oven readily assembled from space heaters, an office fan, and an oil drum.

Inspect Your Rope Frequently

Before using rope on any job about a mill, inspect throughout its entire length for external wear, broken or cut fibers, variations in size or roundness of strands, discoloration and rotting, is the advice offered in issue No. 3 of *Dutch Boy Painter*, published by National Lead Co., 111 Broadway, New York.



Method of inspecting rope.

Look for black or rusty spots. If these or other suspicious-looking areas are noticed, unlay the strands and note condition of the newly exposed fibers. If the inner yarns are bright, clear and unspotted the rope strength has not been weakened. If the strands appear damaged, unwind an eight- or ten-inch piece of yarn and break it in your hands. If it breaks easily, the rope is unsafe and should be discarded.

EQUIPMENT	AREA SQ. FT.	P.S.I.	INSULATION THICKNESS	YEARLY BARE SURFACE STEAM LOSS	YEARLY INSULATED SURFACE STEAM LOSS	YEARLY INSULATED SURFACE SAVINGS
10" Std. Flange Coupling	3.4	150 lbs.	2"	23,550 lbs.	1,770 lbs.	21,780 lbs.
2 Boiler Drum Heads	15	150 "	2"	104,000 "	6,700 "	97,300 "
1 ft.-4" Steam Line	1.2	125 "	1½"	7,760 "	850 "	6,910 "
1 ft.-6" Steam Line	1.7	50 "	1½"	7,910 "	850 "	7,060 "
1 ft.-8" Exhaust Steam	2.2	25 "	1½"	8,250 "	900 "	7,350 "
100 sq. ft. Flat Steam Surface	100	150 "	2"	742,000 "	47,000 "	695,000 "
100 sq. ft. Flat Steam Surface	100	50 "	1½"	465,000 "	42,000 "	423,000 "

Heat losses and savings by insulation.

Cleaning Air Filters

Efficiency of air conditioning units used in mills is dependent, to a marked degree, on the cleanliness of the filtering unit. According to a recent release of Carrier Corp., Syracuse, N. Y., filters in air conditioning equipment may be one of two types. In both instances the appearance of the filters is much the same. One type of filter is a throw-away type, readily identified by the cardboard framing and its inexpensive construction. The other type consists of a metal frame and filtering material. As the filters clean the air, they become

dusty and tend to restrict the flow of conditioned air. To prevent excess restriction, the filters should be cleaned at regular intervals.

Check filters periodically to establish a cleaning frequency suitable to the location. Clean filters regularly by removing the accumulation of dust and dirt that hinders air flow. Cleaning may be accomplished by removing the filter and tapping the filter on the floor so that the dust falls off. When the throw-away type can no longer be cleaned in this way, it may be discarded; a new filter should be installed. When permanent filters cannot be cleaned by tapping, extra cleaning by a trained service engineer is required.

New Dyes and Chemicals

Size for Rayon Hosiery Yarn

Development of a new water-emulsifiable synthetic wax compound for sizing rayon yarn to be employed in knitting full-fashioned hosiery has been announced by National Oil Products Co., Harrison, N. J. The new compound, known as Nopco Hosiery Treatment No. 2, is simply mixed with water and applied to regular rayon skeins. It can also be applied to oiled rayon as received from the manufacturer without the necessity of scouring before soaking. Among the advantages cited for the treatment are that it requires no organic solvents, thus eliminating toxic fumes and fire hazard; protects the yarn against abrasion; and reduces press-offs during knitting.

Ethyl Cellulose Formulations

New formulations of ethyl cellulose plastic designed to replace rubber have been announced by Hercules Powder Co., Wilmington, Del. When compounded with oil and plasticizers, ethyl cellulose produces compositions characterized by toughness, pliability, flexibility, impermeability, and thermoplasticity. Some formulations have good abrasion resistance, tensile strength, and water resistance. Among the applications suggested are in manufacture of hospital sheeting, impregnated fabrics, and coated fabrics. Flameproof properties are imparted by use of tricresyl phosphate, chlorinated diphenyl, and chlorinated paraffin.

Permanent Cellulose Finish

A new permanent cellulose finish, known as Permalon, has been made available in several viscosities for various types of knitted and woven fabrics by Hart Products Corp., 1440 Broadway, New York. Mosquito netting (marquisette, tricot, bobinette, and lace) processed with Permalon is said to meet Government specifications and to be in use already by the armed forces. Among the advantages cited for Permalon are very low shrinkage—well below government requirements; even penetration—produces a clean, smooth surface; eliminates slippage—provides permanent adhesion of warp and filling yarns; and spreads evenly with pigment colors—insures uniform, clear shades.

Japan Wax Substitute

A substitute for Japan wax designed chiefly to meet the requirements of the textile industry, has been announced by Cornelius Products Co., 432 Fourth Ave., New York. This product is said to compare favorably with genuine Japan wax. It is soluble in all the usual wax solvents and compatible with waxes, fats, and oils of every description. The following chemical properties of this substitute reveal how close it is to genuine Japan wax: melting point, 50 to 55°C.; acid value, 2.9; saponification value, 190 to 210; unsaponifiable matter, 1.5 to 1.7.

Hosiery Wax

Recently announced is a new hosiery wax, jointly developed by Crepe de Chine, Inc., and Berkeley Products, Inc., 114 East 32nd St., New York. The primary purpose of the new wax is to improve the running properties of Ray de Chine yarn without subjecting the soaking and winding room employees to excessive danger. This safety factor has been obtained by producing a wax that is applied at room temperature, thus avoiding the danger of operating above the flash point of the solvent. In addition, the skeins may be dried free of solvent in a dry room, separate from the rest of the plant, thereby eliminating any danger of explosion or any toxic condition in the winding room. Whereas the new wax was designed especially for Ray de Chine, it is not confined to this yarn, but is offered generally for all types of hosiery yarns.

Glycerine Substitute

Development of a glycerine substitute which is believed to have a number of applications in the textile industry has been announced by Akerite Chemical Works, 6035 Northwest Highway, Chicago. Akerite glycerine substitute is a non-crystallizing sprup derived from dextrin, starch, and corn sugar. Like glycerine it does not evaporate, but has the ability to attract water during storage. It is soluble in water, alcohol, and glycerin; is insoluble in benzine, gasoline, and petroleum solvents. It is stable and will not deteriorate over long periods of time in storage.

Drying Agent

A new granular drying agent for gases and liquids, and for dehumidifying air in air conditioning systems has been placed on the market recently by Floridin Co., 208 Liberty St., Warren, Pa. The new product, known as Florite desiccant, absorbs water instantly, and does not swell, disintegrate, or appear wet at the end of an absorption cycle. It absorbs 4 to 20% of its weight in water, depending on the particular application, and is regenerated by heating to 300 to 350°F.

Synthetic Wax

A synthetic wax manufactured from domestic raw materials is being introduced as a substitute for Japan Wax by Glyco Products Co., Inc., 230 King St., Brooklyn, N. Y. This product, known as Nipocer, is a tan-colored wax with a melting point of 46 to 49°C. It blends with most waxes and resins and is easily emulsified with the usual agents.

General Dyes

General Dyestuff Corp. announces the following new products.

Palatine Fast Green BLNA Conc CF, an acid dye producing a bluish shade of green which in its fastness properties closely approaches chrome colors.

Acid Chrome Blue 3GNA, a chrome color producing a greenish shade of blue of very good fastness to light, fulling, washing, perspiration, salt water, crocking, pressing, and alkali.

New Publications

Illustrated Dictionary of Cotton Fabrics

STAPLE COTTON FABRICS; John Hoye, McGraw-Hill Book Co., 330 West 42nd St., New York; $3.50

A long-time need by the textile industry and allied trades for a comprehensive reference volume on all types of staple cotton fabrics has been met by the publication of John Hoye's book. To readers of TEXTILE WORLD, Mr. Hoye requires no introduction, nor does his book require the recommendation of a reviewer. The articles on staple cotton fabrics by Mr. Hoye which appeared serially over a six-year period in TEXTILE WORLD proved to be one of the most popular and sought-after series in the history of this publication. Now brought up to date, supplemented with additional information, and gathered together in one volume, they provide a text and reference book of inestimable value to textile manufacturers, designers, converters, selling agencies, students, wholesalers, department-store buyers, and persons interested in home economics.

Included in the book are definitions, descriptions, constructions, and illustrations of the many types of plain woven-fabrics, leno fabrics, twills, sateens, crepes, terry, and other fabrics manufactured for apparel, household, and industrial purposes. Two features which merit particular commendation are the illustrations, natural size and enlarged, of nearly 200 different fabrics, and the excellent index.

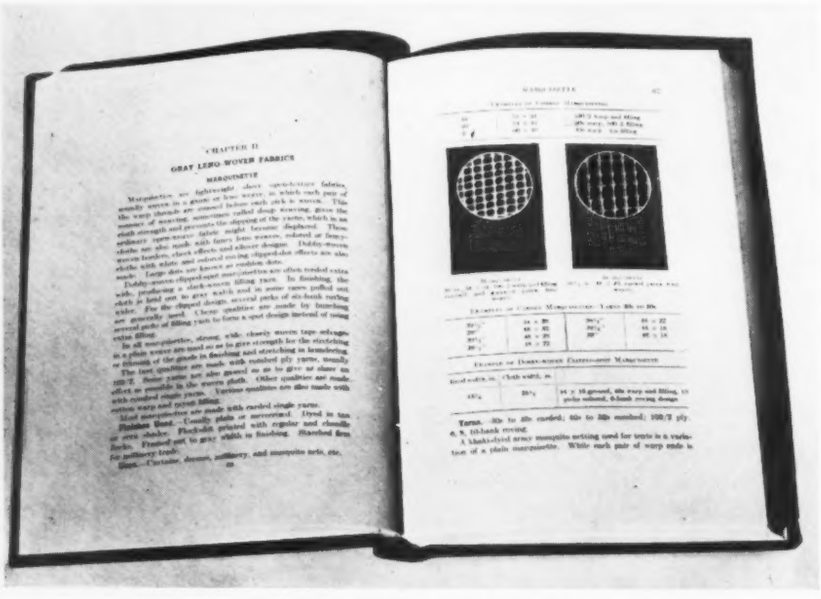
The Church and the Mill

MILLHANDS AND PREACHERS, by Liston Pope, Ph.D.; Yale University Press, New Haven, Conn.; $4.00.

Lots of books have been written about social and economic conditions in southern cotton mill communities, particularly Gastonia and Gaston County, but it was left to Dr. Pope to write the book to end all other writing on this particular subject and locale. His study of the subject was exhaustive. His interviews with all classes of people connected directly and indirectly with Gaston County mills and Gaston County churches were numberless. His patience in unearthing reasons for existing conditions in the villages and the assemblage of the facts he gathered is evident to the most casual reader. But the thoughtful reader must say to himself: "Here is a job thoroughly and beautifully done. Here is an analysis of conditions relating to man's labor and man's spiritual life which may be the foundation of better and stronger relations between employees and employers of a great industry through better understanding by those representing the church."

Dr. Pope explains Gaston County's innate urge to manufacture by reviewing its history of industry. He tells of the sudden impact of a working class, imported because of a mushrooming industry, upon the clannish Piedmont. Through it all he frankly discusses the relation of the church to the mill, the churchmen to the employees of the mill.

This reviewer recommends most highly this book for factual information, for unbiased and impersonal annotation of social conditions governing the mill villages. Particularly, it should be read by mill owners who, consciously or unconsciously, have directed their policies into the church's preaching.



Typical pages in "Staple Cotton Fabrics" by John Hoye

ACMA Proceedings

AMERICAN COTTON MANUFACTURERS ASSOCIATION PROCEEDINGS; published by the association at Charlotte, N. C.

This annual volume gives a complete report of the 46th Annual Convention of the A.C.M.A. at Atlanta, May 1 and 2, 1942. It also includes a sketch of Herman Cone, the president elected at that meeting.

The World to Come

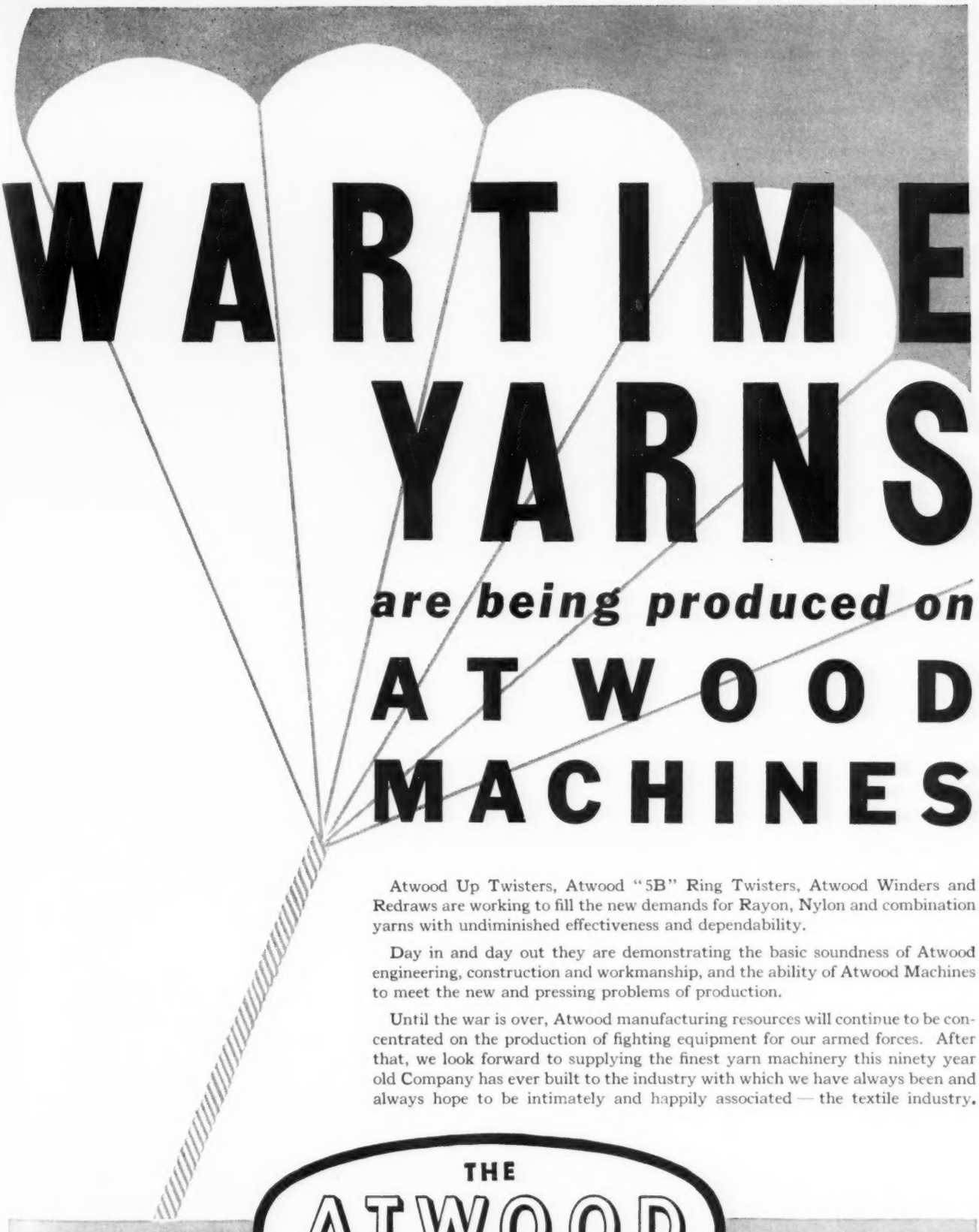
MEN WHO MAKE THE FUTURE, by Bruce Bliven; Duell, Sloan & Pearce, 270 Madison Ave., New York; $2.50.

In "The Men Who Make the Future," Bruce Bliven tells the story of what American scientists are doing today and what the results of their research will mean to us tomorrow. For about a year the author spent much of his time talking with leading American scientists—chemists, physicists, physiologists, botanists, engineers, and others. This book is primarily the product of these interviews. Giving a comprehensive and comprehendable picture of the work which is being done in research laboratories throughout the nation, it provides a glimpse of the better world to come. Despite his over-emphasis of some relatively minor developments and under-emphasis of some more important achievements, the author succeeds in giving a fairly well-balanced summary of the scientific advances which are occurring on all fronts.

Giving Workers the Truth

SHARING INFORMATION WITH EMPLOYEES, by Alexander R. Heron; Stanford University Press, Stanford University, California; $2.50

Working on the theory that the habit of sharing truthful information with employees is the pathway to better industrial relations, Mr. Heron has written a book which should be of real value to management in these days of



WARTIME YARNS

are being produced on

ATWOOD MACHINES

Atwood Up Twisters, Atwood "5B" Ring Twisters, Atwood Winders and Redraws are working to fill the new demands for Rayon, Nylon and combination yarns with undiminished effectiveness and dependability.

Day in and day out they are demonstrating the basic soundness of Atwood engineering, construction and workmanship, and the ability of Atwood Machines to meet the new and pressing problems of production.

Until the war is over, Atwood manufacturing resources will continue to be concentrated on the production of fighting equipment for our armed forces. After that, we look forward to supplying the finest yarn machinery this ninety year old Company has ever built to the industry with which we have always been and always hope to be intimately and happily associated — the textile industry.

THE ATWOOD MACHINE COMPANY

STONINGTON CONN., U. S. A.

SALES OFFICES: STONINGTON · CHARLOTTE · LOS ANGELES · MANCHESTER, ENGLAND · BUENOS AIRES
SAO PAULO · MEXICO CITY · MELBOURNE · SYDNEY · BOMBAY · MADRAS

taut nerves in all industries. He does not say "go out and tell your secrets"; on the contrary he advises caution in beginning to share information. He points out the difficulties in news-sharing, but insists that properly done it is beneficial in the long run.

One by one he takes up briefly the important phases: what employees want and need to know in order to do better jobs; why they should know; and how they should be told. He tells how to avoid politics, the grape-vine, and other subversive influences, and then stresses the better methods which should be inaugurated. All these chapters are amply illustrated with case histories which make the book interesting reading.

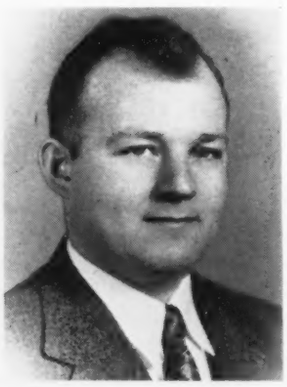
This can be highly recommended as one of the really helpful books on industrial relations.

News of Suppliers

H & B American Machine Co., Pawtucket, R. I., has announced that its productive efforts are largely diverted to war materials and delivery of items in its regular line will depend upon what facilities may happen to be available. Elmer J. McVey, who has been in charge of the Charlotte office, has been recalled to Pawtucket to coordinate and accelerate production of war materials, and J. Carlile Martin who is in charge at Atlanta will also manage the Charlotte office. Herman J. Jones who has covered Alabama, has been called from reserve status to active service in the Army. George W. Murphy, of Atlanta, has added Mr. Jones' territory to the one he already serves. Clinton M. Powell of Charlotte has accepted a mill agent's position and his territory has been divided between Fritz Zweifel of Spartanburg, S. C., and Fred Dickinson of Rockingham, N. C.

Joseph Amon, Inc., Rahway, N. J., has diverted its entire plant facilities to war production. It will continue to supply customers in the hosiery industry as long as its stock lasts.

American Machine & Metals, Inc., East Moline, Ill., has appointed John S. Swennumson as personnel director. He has been with the firm since 1931, lately as office manager and assistant treasurer.



CHARLES A. HAYNES, JR., who has succeeded his father as sales representative for Howard Bros. Mfg. Co., as reported in this department last month.

"I PULL WITH UNCLE SAM"

WICKWIRE SPENCER STEEL CO., New York, has awarded the first prize of a $100 war bond to Robert Lytle of the power house in its Buffalo plant for the slogan, "I Pull With Uncle Sam". The slogan ties in with a picture showing a "wire rope Man O' War" pulling a noose around the neck of Japan's "Rising Sun". Second prize went to Henry Davis of the Fence and Structural Products Sales Depts. of the New York office for his slogan, "A Yank Over Here Helps a Yank Over There".

Rohm & Haas Co., Philadelphia, has acquired the former Sterling Woods Products Plant covering 17 acres at Knoxville, Tenn., and will set up facilities to manufacture a synthetic chemical product for military use.

General Aniline & Film Corp. has leased the four-story building at Easton, Pa., formerly occupied by the Stewart Silk Corp. It will be used as a central research laboratory.

Sterling Ring Traveler Co., Fall River, Mass., has elected Raymond V. Borden as treasurer and a director. He was formerly assistant treasurer, and has been with the company for 26 years. He succeeds the late W. J. Wixon.

Fabric Research Laboratories, Inc., Boston, Mass., has been set up for handling research, testing and consulting. E. R. Kaswell is presdient and W. J. Hamburger is treasurer, both holders of masters' degrees from M.I.T. Office has been established at 665 Boylston St., Boston.

Calco Chemical Division, American Cyanamid Co., Bound Brook, N. J., has appointed Robert N. Griswold a member of its Chicago sales staff to handle the paper trade in the Miami Valley. He came to Chicago from the Morgan Dyeing & Bleaching Co., Rochelle, N. Y.

Hart Products Corp., New York, has been appointed exclusive sales agent for Celludye pigment color concentrates for the textile industry.

American Viscose Corp. has assigned A. S. Cookman, Jr., to its sales offices at Charlotte, N. C., where he will take over the work of S. Reed Anthony who has received a commission as lieutenant, j.g., in the Navy. Mr. Cookman comes from the Textile Unit at Marcus Hook, Pa. American Viscose Corp. has established an export department in charge of John W. Geary, Jr., who has been in the company's "Fibro" rayon staple fiber department, and who, as a former partner of Geo. H. McFadden & Bro., has been active in all export markets, particularly those of South America. Mr. Geary will be assisted by David L. Enequist, formerly with the company's New York sales department.

Sjostrom Machine Co., Lawrence, Mass., has appointed the staff of M. Bradford Hodges, Atlanta, Ga., as its exclusive southern representatives.

Michigan Alkali Co. has removed its general sales offices to Wyandotte, Mich.

F. A. Lazenby & Co., Inc., Baltimore, Md., was dissolved as of July 31 and all properties transferred to a partnership, trading as F. A. Lazenby. The partners are Joseph D. Lazenby, F. Marion Lazenby and Olney R. Payne who were the stockholders and officers of the corporation. The business will be continued without interruption.

Pittsburgh (Pa.) **Plate Glass Co.,** Columbia Chemical Division, has appointed K. C. Frazier as district sales

P. C. SOWERSBY, assistant advertising manager for G.E. Lamp Department at Nela Park headquarters in Cleveland, who has just been transferred to the company's Michigan Division in Detroit, where he will specialize in the advancement of wartime lighting designed to increase production of war goods manufactured in the Michigan industrial area.

We are Building Tomorrow's Business TODAY

When the business history of these times is written it will include stories of many who started at the top and worked down.

We refuse to be stampeded by headlines. We insist on believing in the *future* of our country and of *our* business.

We are convinced that tomorrow's business is important to consider today. In our field (Textile Paper Carriers) we can see nothing ahead to change the importance of a dependable source of supply.

SONOCO MAKES *EVERYTHING* IN *PAPER CARRIERS*

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. | HARTSVILLE S. C. | MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY

K. C. Frazier, New York district sales manager for Columbia Chemical Division.

manager in the New York Metropolitan area. For the last 10 years he has been southwestern manager of the Southern Alkali Corp., an affiliate. Executive sales office of Columbia Division has been moved from New York to Pittsburgh.

General Electric Co., Nela Park, Cleveland, Ohio, announced a reduction of list prices on G-E Mazda fluorescent lamps of 12 to 17%, which is the seventh major reduction in four years. Some mercury and household filament lamps are also reduced.

York (Pa.) **Ice Machinery Corp.** has appointed Joseph E. Moody as manager of industrial relations.

E. I. du Pont de Nemours & Co., Wilmington, Del.—Milton Kutz, who started work as an office boy 45 years ago and now is assistant to the general manager of the Du Pont company's Electrochemicals Department, was the guest of honor on Aug. 4 at a testimonial dinner given by his associates.

Monsanto Chemical Co., St. Louis, Mo., has promoted Victor E. Williams assistant general manager of sales of the Organic Chemicals Division with headquarters in New York, to the position of director of sales of the Organic Chemicals Division. Mr. Williams will remain at his present location in New York. Frederick C. Renner, assistant general manager of sales of the Organic Chemicals Division of Monsanto, has been made general manager of sales, with offices in St. Louis.

Crocker-Wheeler Electrical Mfg. Co., Ampere, N. J., has appointed R. J. Hearn as assitant manager of its Boston District office.

Norma-Hoffmann Bearings Corp., Stamford, Conn., has elected Clarence E. Stevens as vice-president in charge of plant operations. He was recently vice-president in charge of manufacturing of Electrolux, Inc.

Fairbanks, Morse & Co., Chicago, has appointed Robert H. Morse, Jr., who has been branch manager at Cincinnati, Dallas and Boston, as assistant sales manager.

Societe Anonyme de Matieres Colorantes et Produits Chimiques Francolor is a Franco-German dyestuffs company formed with French officers but German stock control to operate the French dyestuff industry.

Acme Steel Co., Chicago, has increased the wages for salaried or "white collar" employees by about $10 per month, retroactive to Feb. 8, 1942. Many employees used the extra check to buy war bonds.

Hygrade Sylvania Corp., New York, is changing its corporate name to Sylvania Products, Inc. The change will not affect basic operations or policies.

Lo-Hed Hoist Division of American Engineering Co., Philadelphia, has appointed Eiler Equipment Co., Minneapolis, Minn., as representatives for Lo-Hed electric hoists.

N. R. Miller & Co., Toronto, Canada, has appointed R. C. Gilpin as manager succeeding G. Herbert Miller who is with the Wartime Prices & Trade Board.

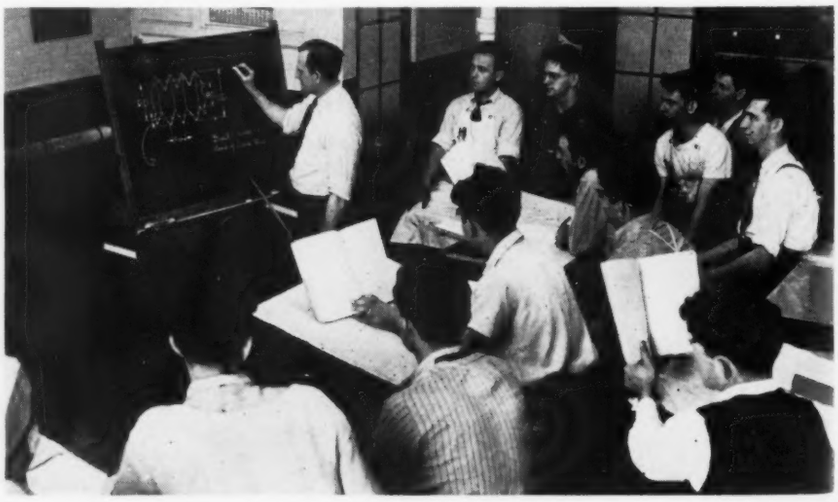
Lockwood Greene Services Outlined in New Brochure

Lockwood Greene Engineers, Inc., 10 Rockefeller Plaza, New York, has recently issued a brochure outlining the organization's engineering and appraisal services to industry and commerce. The brochure is largely pictorial, better to depict the variety of services performed. Particularly outstanding are the textile sections, illustrating and describing numerous cotton mills, woolen and worsted mills, carpet mills, rayon and silk mills, knitting mills, and finishing plants which are among the organization's clients in the textile industry.

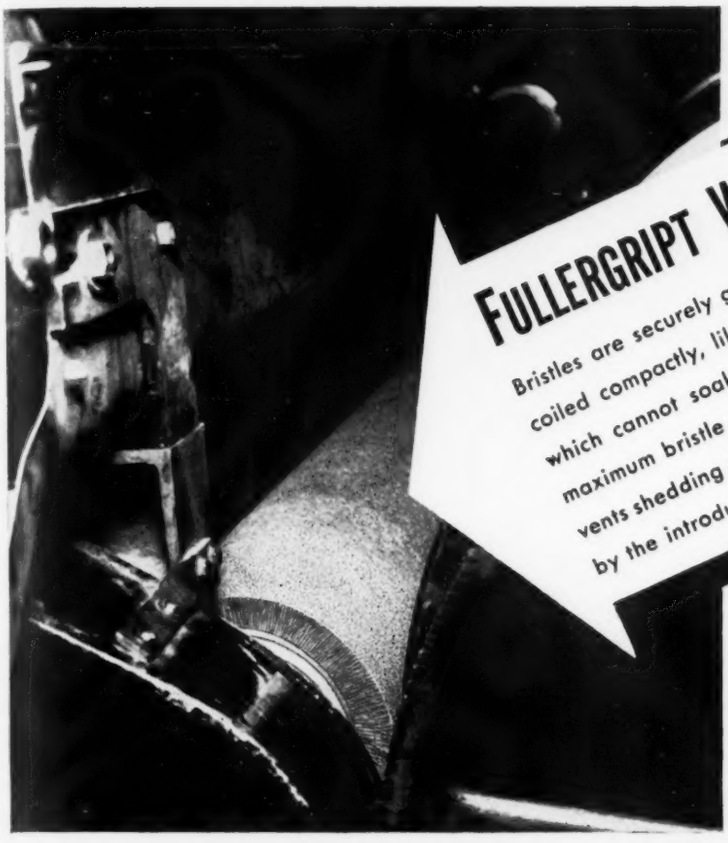
Draper Trains Mechanics in War Production Jobs

Draper Corp., Hopedale, Mass., with over 5% of its employees now at battlefronts on three continents or in training for those fronts, is carrying on a school for intensive training of its mechanics to speed up war production on which it is largely engaged. Over two years ago the company's shop management foresaw an impending shortage of skilled labor. Plans were made for a school to turn out competent toolmakers and machine tool designers in a three years' course of classroom study and apprenticeship, aiming to secure all-around mechanics rather than to fit men for a particular job on a given machine.

The school opened in January, 1941. Sons of Draper workers and high school graduates were given preference. The students work a 5-day week of 40 hours, receive pay with a raise every six months and are furnished free tools. One week is spent in the classroom and two on machines in the school shop, making small tools and regular shop products. In school the boys study mechanical drawing, shop mathematics and the theory and use of machine tools, with stress upon accurate measuring and gaging. Since Pearl Harbor the training has been modified to provide for speeding up wartime machine tool production in the main shops, undergraduates being loaned for this objective after being well grounded in fundamentals. In an illustrated article in *Cotton Chats*, the Draper paper, featuring this instruction, the point is made that "mechanics don't get medals, but theirs is a victory job," with the comment that in giving up their chance for a well-rounded training in mechanics, these students are proud to make an unspectacular sacrifice for their country's cause.



A blackboard talk by instructors at Draper's school for mechanics.



FULLERGRIPT WORSTED-CARD BRUSHES

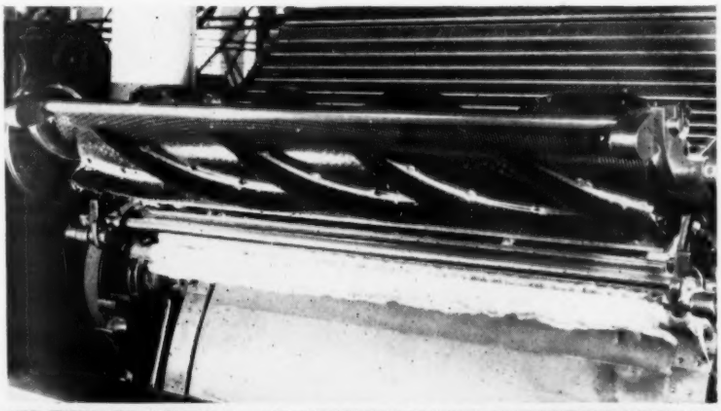
Bristles are securely gript in rust resisting metal. This strip is then coiled compactly, like fillet card clothing, around a metal core, which cannot soak up oil, crack or split. This construction gives maximum bristle density, longest life and lowest cost; it also prevents shedding of bristles and the consequent ruining of good stock by the introduction of highly objectionable "foreign matter."

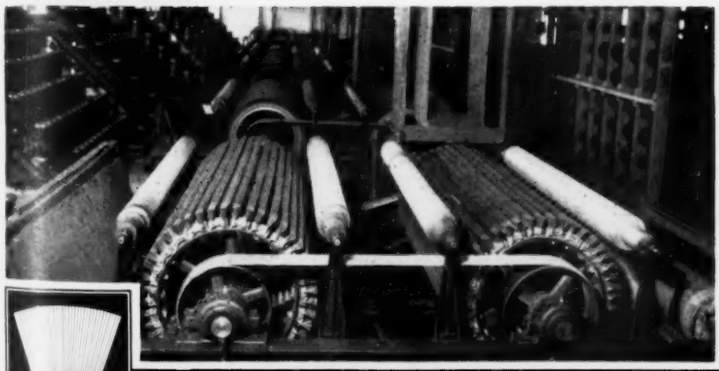
FULLERGRIPT BRUSHES

Approved and Adopted by the Textile Industry

Fullergript brushes are proving helpful in three ways on worsted cards — as feed-roll brushes to start the wool properly in the teeth of the first lickerin, as Morel brushes to disentangle the burrs from the wool, and as Morel transfer brushes to carry the wool to the Morel roll and disentangle the burrs.

The great density of the Fullergript bristles insures that the wool will be pushed into the clothing — not back into the brush! This means the brushes will not clog up rapidly, lose their efficiency and require cleaning — always a difficult, time-consuming job.





FULLERGRIPT
REPLACEABLE BRUSH STRIPS ON COTTON CARDS

Fullergript bristles are packed closely together from one end of a spiral to the other, with no gaps to permit insufficient cleaning of the flat clothing.

Notice the higher tufts at both ends of each strip. These reach the ends of the flats where there is no card clothing and keep them free of dust, oil and cotton wax. This prevents formation of those gummy lumps which lift the flats away from the cylinder.

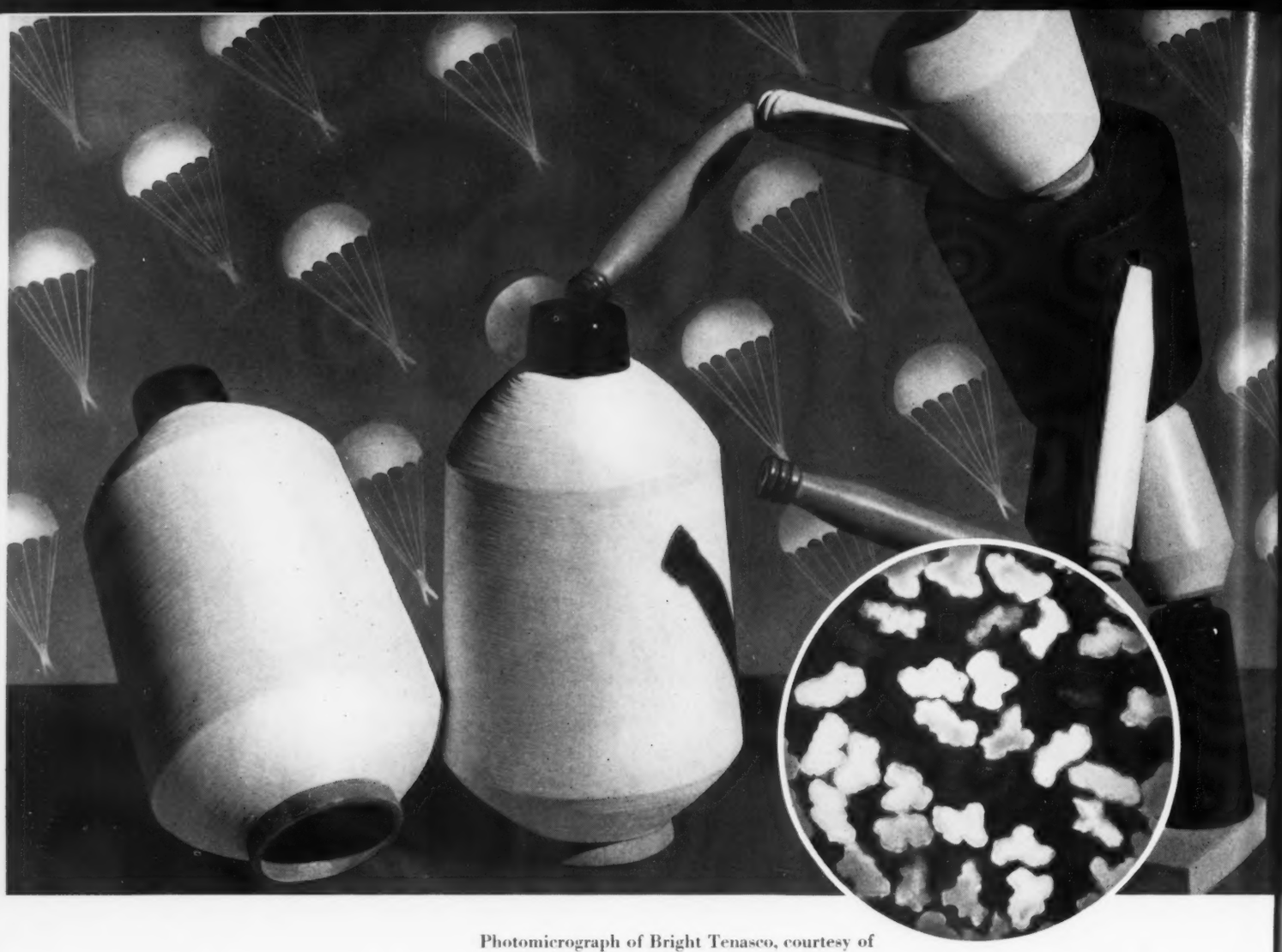
OTHER TEXTILE-MILL BRUSHES

The Fullergript principle has proved successful in other textile-mill applications: thread-dresser brushes, worsted dabbing brushes, burr-picker brushes, finishing-machinery brushes, etc. Write us for details of any of these applications.

The FULLER BRUSH Company

INDUSTRIAL DIVISION, DEPT. 8C

3594 MAIN STREET - - - HARTFORD, CONN.



Photomicrograph of Bright Tenasco, courtesy of
Wm. M. Grosvenor Laboratories, Inc.

FINE DENIERS OF THE NEWER YARNS WOUND ON PINEAPPLE CONES

Many of the high-tenacity yarns, such as the one shown in the photomicrograph, are now being used for parachute cloth and other military purposes. Such yarns are being wound on No. 50 Precision Winders.

Some day great quantities of these yarns will be spun in the finer deniers — much of it high-twisted — and the same flexible No. 50 Winder will be easily adapted to the new winding requirements.

The problem of winding fine denier yarns has already been solved by Universal Engineers through the development of the Pineapple Cone Attachment, originally designed for fine silk hosiery yarns.

The Pineapple Cone provides an opportunity to wind with light tension throughout the building of the cone. The tapered ends insure more accurate winding — without danger of stitch formation or distortion of package shape as the cone increases in size.

When winding fine denier yarns, maximum weight is not of great importance; therefore Pineapple Cones of average diameter will contain sufficient yardage to last for many hours on the knitting machine, filling winder or in the high-speed warping creel.

See our Catalog in TEXTILE YEARBOOK

More Than 90% of All Synthetic Yarn Is Coned on Universal Precision Winders

LEESONA
REG. U.S. PAT. OFF.

UNIVERSAL WINDING COMPANY

Providence Boston Philadelphia Utica Charlotte Atlanta

THE OVERSEERS' CORNER

LENDING TO EMPLOYEES

A PETE AND BILL DISCUSSION

"Say, Pete, would you give Joe Betts a loan for fifty?" asked Bill as he buttonholed his friend on the stairs. "He's behind on his bills, he says, and needs that to square himself. He's a good worker, but he always seems to be just one jump ahead of the sheriff."

"Come now, Bill," said Pete, correctively, "don't put me in the position where Joe or anyone else will think lending the company's money is *my* personal affair. You know it is company policy to lend money only in the most deserving cases. Perhaps Joe is deserving, but so are many others. It's really very hard for me to refuse a loan when I think a refusal will cause resentment or even hardship. The fact is, I'd like to see someone in the treasurer's office or personnel department handle all loans, both because they can spend more time investigating, and because I just don't want to be blamed for refusals."

"Well, Pete, you can let someone else make your loans for you, but I want to make my own," retorted Bill. "Besides, I have handled loans for years, and I don't see the need of a change now. You have let Joe have loans before. Why the sudden change, Pete? You haven't lost a penny on him yet, have you?"

Bill buttonholed his friend on the stairs

"No, Bill, the company hasn't lost a penny on Joe, but should I refuse him a loan, we might lose Joe for all practical purposes. A resentful employee certainly doesn't help production. Somehow we've got to help our people establish credit and stay out of debt; and, except in rare cases, we do not really help them by granting small loans."

Should superintendents and overseers make loans to employees?

Letters from Readers

Why Not Learners from the Village?

"Learners from the Village" (Pete & Bill, August, 1942)

Editor, Overseers' Corner:

I read Bill's statements in the August issue with surprise. If he wouldn't draw his learners from his mill village, where, in the name of common sense, would he draw them from. Bill's doddering remarks about the younger generation "bothering" him in the mill is ridiculous. If the learners ask sensible questions, it means progress with the apprenticeship. If they ask deliberately silly ones, it's just a matter of ordinary discipline to give them serious warning to straighten them out, or, if they prove incorrigible, to fire them.

X. Y. Z. (*N. Y.*)

No Coercion in War Bond Selling

"Selling War Bonds" (Pete & Bill, June, 1942)

Editor, Overseers' Corner:

It is all right for employers to place posters on bulletin boards to remind employees where they can buy war stamps and bonds, and to explain the purpose and advantage of buying them; but that is as far as they should go.

Whether or not employees buy war stamps and bonds is a matter for each individual to decide. Most textile mills are already overloaded with clerical details such as Social Security tax deductions, unemployment insurance tax and reports on same, to say nothing of priorities and red tape incidental thereto. Therefore the clerical help doesn't have time to do the employees' bookkeeping for them; and employees have no right to expect them to.

It seems to me that most of us are too anxious for the other fellow to buy war bonds, and not eager enough ourselves. If we would stop telling other people

CONTRIBUTIONS to the letters and practical helps in "The Overseers' Corner" are paid for when published without regard to length. We use letters (not over 200 words) discussing the material on this page or any other pertinent matter whether of mechanical, managerial or just plain human interest. Those who contribute practical helps or kinks which are published (not over 500 words) will be paid additional for an appropriate sketch to illustrate their device. It is not necessary to submit finished drawings. Contributions of greater than specified length may be given consideration as articles. If these pages interest you —contribute something to them to interest others. Address Editor, Overseers' Corner, Textile World, 330 West 42nd St., New York.

what they ought to do, and quietly set the example of investing part of our earnings in war stamps or bonds; then price control and financing the war would take care of its self. But to try to induce individuals to buy stamps, even by mild coercion, jerring or any form of intimidation, is very un-American and should be frowned upon.

H. W. J. (*N. C.*)

We Must Work Together

"Conserving Scrap Materials"
(Pete & Bill, July, 1942)

Editor, Overseers' Corner:

There are entirely too many fellows like Bill, who are measuring themselves by the other fellow and trying to justify their conduct in our war efforts. We owe it to our families, our neighbors and our country to make every effort to collect and conserve every scrap of material. If this war is to be won George cannot do it all. Each and every one of us has a duty to perform and a sacrifice to make, and the sooner we awake to that fact the better for all concerned.

K. M. S. (*Va.*)

Notes from the Mills

The first issue of the *Graniteville Bulletin*, published by the Graniteville (Ga.) Corp. for employees in its seven textile mills, has been published. The mills, which include Enterprise and Sibley mills, Augusta, Ga.; Graniteville Mills, Gregg Dyeing Plant and Hackman Mills, Graniteville, Ga.; Vauclain Mills, Vauclain, S. C., and Warren Mills, Warrenville, Ga., provide employment for more than 5,000 operatives.

A new safety record has been achieved by the Roanoke, Va., plant of the American Viscose Corp., which worked from Dec. 27, 1941 to June 5, 1942, a total of 161 days or 3,209,217 man hours, without a lost time accident. Compared with 1941 figures, the chemical industry as a whole averaged 30 lost time accidents for the same exposure.

Over 600 employees and friends of Carter Fabric Corp., South Boston, Va., gathered at the National Tobacco Festival pageant grounds for a war savings jubilee. This was a part of the many events leading to American Heroes Day, celebrated under the direction of E. J. Wyatt, president of the South Boston Lions Club.

"Don't Go Back on the Boys Backing You," submitted by Mrs. Cordena Nuckols, has been selected as the winner in a contest held at the du Pont rayon plant of E. I. du Pont de Nemours & Co. at Ampthill, near Richmond, and sponsored by the War Production Board publicity committee. Mrs. Nuckols' slogan was chosen from among 3,803 entries.

Miss Helen Hardee, Martinsville, Va., was chosen the winner of the slogan contest in which 1,900 entries were submitted by the operatives of E. I. du Pont de Nemours & Co., Martinsville plant. Her slogan was "Work, Save and Serve—for Victory."

A flagpole and marble pedestal have been dedicated to Warren R. Williams, president, by employees of the Father George Mills, Sanford, N. C., in appreciation of his "loyalty, friendship and services" in their behalf. Mr. Williams is also mayor of Concord.

Overseers' Practical Helps

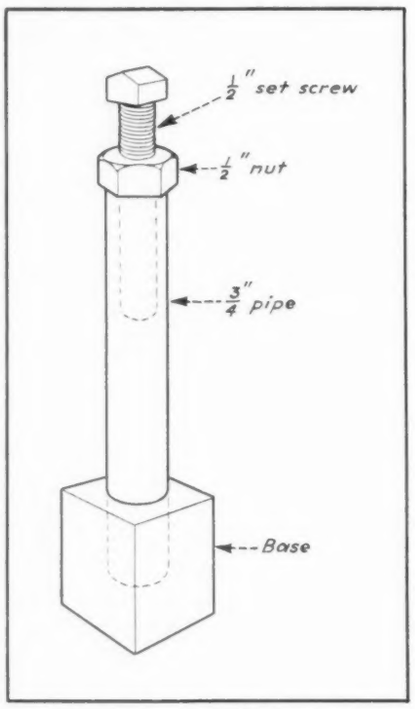
Jack for Putting Shims Under Camshaft Bearing

Shims are sometimes placed under the camshaft bearing of a loom to have the camshaft gear mesh with the crankshaft gear properly.

A handy jack for this purpose can be made in a few minutes from material found in any weave shop. It consists of a ½ in. set screw; ½ in. nut; ¾ in. pipe and a base which can be made from a worn gear shaft collar from an X-model Draper loom, a piece of flat iron welded to the pipe or any piece that will keep the jack from tilting.

In using this jack, the camshaft bearings are loosened, the nut screwed on the set screw which is placed in the pipe with the base of the jack resting on the floor directly under the gear. As the nut is turned with a wrench, the set screw forces the gear upward. The head of the set screw can be ground on an emery wheel to fit between the teeth of any style gear.

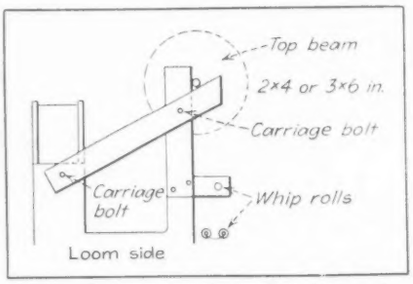
W.C.W. (*Georgia*)



Jack for loom crankshaft adjustment

Loom Beam Stands

With the shortage of iron and steel, it is difficult to obtain metal top-loom-head stands for two-beam fabrics. To overcome this handicap, a serviceable top-beam stand may be made from 2x4 or 3x6 in. lumber and a few long carriage bolts. The writer has used them for years and the breakage or replacement is surprisingly small. See sketch for approximate construction for a Draper loom.



Loom beam stand made of wood.

J. T. O. (*S.C.*)

Aligning Corks on Brake Bands

Brake bands on Draper looms are frequently relined with leather containing cork inserts. Advantage of these inserts is that their frictional properties are not greatly altered by grease and oil and hence will stop the loom quickly under practically all conditions.

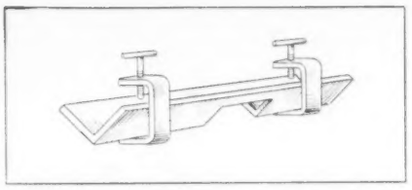
Corks of unequal height as are usually encountered after a brake band has been relined causes inefficient operation of the loom brake, but may be eliminated if all the bands to be relined are saved for one operation. With

a reasonable number of bands on hand, glue a strip of emery cloth on the brake drum of a loom and hold each band in contact with the emery cloth. The band must be held lightly against the drum as the loom is run so as to grind the corks to an exact fit.

G.W.D. (*Massachusetts*)

Shaft Aligner for Use in Welding

The shaft aligner shown in the accompanying sketch was worked out by Louis P. Reinartz and described in a recent issue of *The Stabilizer*, house organ of Lincoln Electric Co. To construct the device, take a 3x3x¼ angle iron 2 ft. long and weld two clamps to it for holding the shaft. Cut a notch out of the center so you can weld all around the shaft. This has proved to be a useful tool around the shop as it holds a broken shaft in perfect alignment for welding.



Shaft aligner jig for welding.

Preventing Kinky Filling

Eleven practical suggestions for overcoming common defects in cotton yarns

KINKY FILLING in a fabric is caused by faulty yarn manufacture, packaging, or faulty loom operation. Frequent study of cloth samples on and off a loom will soon train a loomfixer or weaver in recognizing and in correcting kinky filling. Kinks caused by the loom generally are recognizable because they usually are the same distance from the selvage. Kinks originating in the spinning room are scattered and are finer than loom kinks, and give a salt and pepper effect to the cloth. Spinning room conditions which can cause kinky filling are listed as follows:

1. Excessive twist, caused by a wrong twist multiple or twist gear adds strength to a yarn within limits. Remedy: Reduce twist in yarn as far as specifications will allow.

2. Bad roll covering, steel rollers with bad nicks, clearer rolls in poor condition will cause uneven or slubby yarn. In such instances twist runs to the fine portions. Kinks caused by bad spinning rolls may appear approximately 3 in. apart. Where kinky places are farther apart, but regular, it is advisable to check other causes.

3. Short taper on filling bobbins will cause sluffing off of yarn and throw loops into the shed. Remedy: Measure taper and increase ring rail traverse.

4. Too low a relative humidity, or sudden changes in humidity, will cause filling to kink. Remedy: Correct relative humidity to the standard for the room. Condition filling by an accepted method before weaving.

LOOM CONDITIONS causing kinky filling are improper tension on the filling or deflection of the filling from its normal course. From this point we may say that all causes of kinky filling at the loom can be classed as "tension" or "deflection". These defects traced to tension are:

1. Shuttle not bristled correctly causes filling to sluff off a quill or allows the filling to sag from shuttle to selvage. Remedy: Examine shuttle for bristle. Check for proper bristling. Use good bristle placed correctly.

2. Shuttle bouncing for a number of mechanical reasons causes loops to be formed in the filling that enters the shed on the next pick. A low relative humidity causes loose boxes. Remedy: Reduce power on picker stick; check and repair loose, weak, or broken heel springs, box binder spring, and protector rod spring; replace worn back or front binders and leather on the dagger stops; reset dagger stop if necessary. Correct relative humidity rather than the boxes.

3. Shuttle eye nicked or bent will cause loops to be formed. Remedy: Replace with new eye. Apply tension to eye by bristling or inserting a felt pad.

4. Shallow or rough grooves in shuttle will cause improper tension and kinks will form. Remedy: File groove out with rat tail file.

5. Binder bristles out of front binder on battery end allows filling to form kinks because of the slackness of the yarn. Remedy: Replace worn bristles if they are not holding filling in line.

Defects that are traced to deflection as listed as follows:

1. Filling fork going too far into the grate causes slack filling which forms kinks. Remedy: Turn crank-pin to adjust the distance the fork enters the grate. Center filling forks on box looms often cause kinky filling. Set fork to meet the requirements of the filling used.

2. Knots or gouts in the warp catch the filling at front of the reed and results in loops forming on the beat-up. Remedy: Correct knots at previous processes of spinning, winding, and warp preparation. A few knots and gouts may be removed by the weaver.

3. Tape harness not in time causes the tape shed to close too early or places a drag on the filling. Loops are likely to form at the selvage. Remedy: Take up slack in tape straps. Reset cams to time harness correctly.

4. Harness set or timed incorrectly will cause the filling to be looped over high harness ends or the shed may drag on the shuttle, causing slack filling. Remedy: Level harnesses and time shed to suit conditions.

5. Harness ribs loose or broken will cause some heddle eyes to be raised above the shed, thus causing a loop when the filling passes over it. Remedy: Fasten or replace loose harness hooks. Replace broken ribs.

6. Heddle eyes divided improperly will force ends out of line causing kinks. Remedy: Divide eyes on bars on all harness.

7. Heddle eye too high or broken heddle eye causes a warp end to throw loops into the filling. Remedy: Replace with a repair eye.

8. Harness springs too weak or sheaves broken or worn will cause warp ends to deflect the filling. Remedy: Replace broken sheaves and put stronger springs on the harness.

9. Head motion worn, broken, or binding, causes one or more harness to lag and deflect the filling. Remedy: Replace broken parts, clean head and straighten parts that bind.

10. Cams or center bearings on camshaft loose will cause harnesses to shed out of time. This is also caused by the idler gear and stud being worn or the treadles or treadle shaft being worn out. Remedy: Overhaul cam and treadle undermotion, replacing worn parts.

11. Treadle stirrups not spaced correctly causes the harnesses to deflect the filling in the shed. Remedy: Space stirrups in notches in treadles according to the weave and the harness number so as to avoid a multiple shed.

Causes of kinky filling as enumerated are intended to be general for all type of looms. Loomfixers and second-hands on specialty looms or fabrics can add to the causes listed above, however, with these causes they have a basis upon which to build specialized experience useful in overcoming kinky filling.

Take Better Care of Shuttles

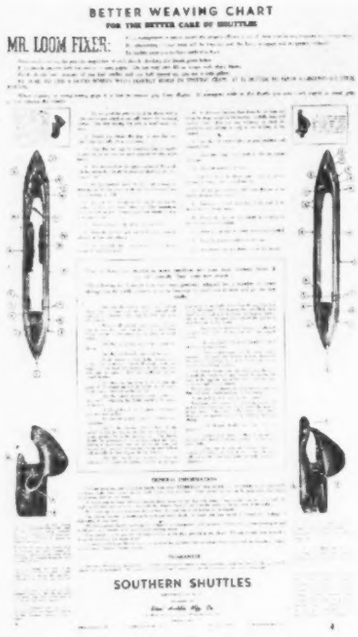
Useful hints which will help prolong their life and increase loom efficiency

BETTER WEAVING will result from better care of shuttles. At the same time shuttle life will be lengthened with consequent conservation of materials. To aid loomfixers in achieving these aims, Southern Shuttles, Division of Steel Heddle Mfg. Co., has recently issued a "Better Weaving Chart," containing numerous useful hints on care of shuttles and on boxing new shuttles. An abstract of the information on care of shuttles follows: (Paragraphs Nos. 1, 2, 3, etc., refer to parts of shuttles indicated by corresponding numbers.)

1. Do not grind the point or tip of the shuttle with a high-speed emery wheel, as you will remove the hardened portion. Use slow-moving wet rock or hand emery the point.

2. Should you remove the grip, be sure that you "jam" these two bolts when re-inserting.

3. Keep this bolt tight by checking it at regular periods, but do not put too much pressure on your screwdriver.


BETTER WEAVING CHART

MR. LOOM FIXER:

SOUTHERN SHUTTLES

Better Weaving Chart recently issued by Southern Shuttles; original chart is approximately 14 x 22 in.

4. The distance from the square surface of this guide and the bobbin butt should be about the thickness of a thin dime, or $\frac{3}{64}$ in.

5. Do not hammer down the grip with a sharp instrument on the top edges of the jaw, as a battered jaw causes hanging of quill.

6. Do not try to straighten the jaw of the grip by prying the jaws with a screwdriver or other instrument placed behind the jaw. Remove grip from shuttle to close or straighten jaws.

7. Do not let quill rings roll in one of these edges.

8. Keep the eye bolt tight, but do not put too much pressure on your screwdriver.

9. Do not stick sharp instruments in this thread passage or bend this hook.

10. If this cover becomes bent down by the loom and filling breakage occurs on the transfer, carefully bend and readjust cover. This was your warning; so check the paralleling and picking as well as the leveling of the harness.

11. See that the friction felt is in good condition and properly fixed.

12. Keep this trough as it was made. Do not change the shape.

13. Keep the outlet free of burrs.

14 and 15. Keep the thread groove deep to prevent kinking of filling. Use a round fine file.

16. Do not put bristles in the throat portion of the shuttle between these points.

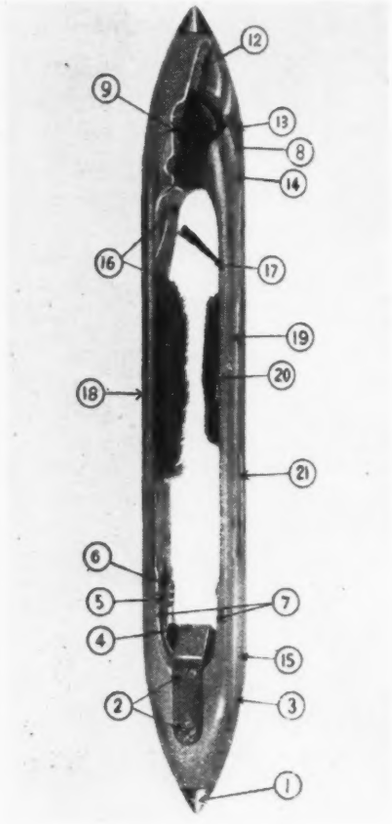
17. Endeavor to insert all bristles in the wall of the shuttle at a 45° angle.

18. Protect the walls of your shuttle by covering jaws of vise with leather.

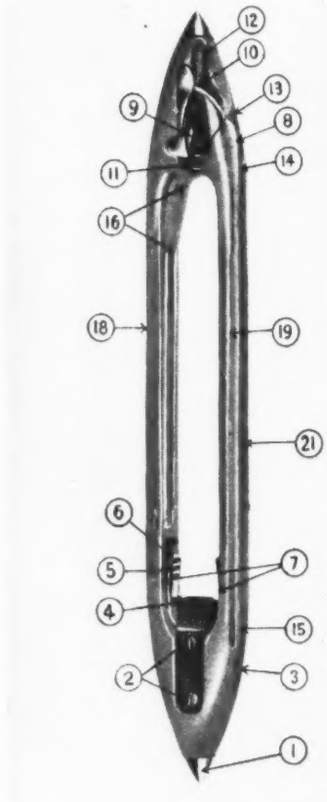
19. Keep the top edge of shuttle smooth and rounded.

20. Keep fur in good condition at all times.

21. Keep feeler slot and thread cutter slot smooth.



Shuttle for rayon looms.



Shuttle for cotton looms.

QUESTIONS & ANSWERS

Doffing by Percentage

Technical Editor:

In the June issue of Textile World on page 76, you had an article entitled "Plan Doffing By Percentage." This article was written by Clarence McElroy and Marcus Gross. We were very much interested in the contents of this article and would like to have more information as to how the percentage per side was established for the various yarn numbers. We would like to get this information in addition to any other details back of their recommendation. (8875)

The following reply was furnished by Messrs. McElroy and Gross.

To make a schedule "Doffing by Percentage," you must first ascertain how many spindles a doffer can doff in 1 hr. without rest. Let us assume that one doffer doffed 900 spindles in 1 hr. In 40 hr. this would amount to 36,000 spindles. Allowing, say, 15% rest, this doffer's basis for 40 hr. would be 30,600 spindles. His hourly basis would be 765 spindles. Dividing 765 by 120 spindles per one side, will equal total sides to be doffed for a doffing interval of 1 hr.; viz, 765 spindles per hour ÷ 120 spindles per side = 6.375 sides per hour. Therefore 6.375 sides represents 100% of this particular doffing interval of 1 hr. duration. The division of 100% by 6.375 sides per one hour will equal the percentage of one side only; viz, 1.00 ÷ 6.375 = 0.1568, or 15.68% percentage one side. Although 85% represents the company's standard in the make-up of the schedule, the actual sides apportioned to the doffer take on a different value. Whatever he is apportioned, that becomes his standard of 100% of a doff.

If the doffing basis is increased or decreased and a new schedule is made, the total sides per doffing interval allotted still retain their 100% standard.

The yarn counts, of course, have no direct bearing on the schedule. For example: If a 36s filling is doffed in 3 hr. 15 min., the sides for that particular doffing interval will be opposite 3 hr. 15 min. in the schedule given in the June issue.

However, various schedules can be made to take care of light and heavy yarns, bearing in mind that light yarns have more end breakage at the start of a new doff run than heavy yarns. Heavier yarns have more strength to resist the take-up of slack and etc. A different basis can be established for 1s to 25s, 26s to 50s, 51s to 75s, and 76s to 100s. The basis for finer yarns would be slightly less than for heavier yarns. Synthetic yarns with a good deal of end breakage at the start of a doff run will call for a doffing basis much less than finer yarns.

All this, of course, can be ascertained by an hour's test, and a basis drawn up. The time it takes to doff one frame is included in the doff run. For example, a yarn runs 4 hr. 55 min. Two doffers doff it in 5 min. That particular doffing interval is 5 hr., because in a 40-hr. week you are getting only 8 doffs.

A further example, why yarn counts have only an indirect bearing on the schedule lies in the fact that two identical yarn counts may be run on different size rings with varying doffing intervals. But whatever their doffing interval the schedule covers it from 15 min. to 16 hr. 45 min. Although we have no yarn running longer than 16 hr., the schedule can, of course, be extended.

Duplicating Cotton Crash

Technical Editor:

We are interested in manufacturing a cloth similar to the sample inclosed, but have trouble in making the filling yarn. We shall appreciate you letting us know how this yarn is made. (8862)

The fabric in question is a nubby waste crash and contains black and white nubs in a salt and pepper effect. To duplicate the effect experiments will have to be conducted to obtain the correct percentage and distribution. Not knowing the exact processes in use in your mill, we suggest the following:

Nubs—Make laps of card strips. One lap to be black and one natural.

Dye—Dye card strips sulphur black.

Picking—Change settings to retain short fibers and form a lap without undue loss of stock in strips.

Carding—Back off flats and settings to do as little carding as possible on the strips. The card will form a sliver only.

Drawing, first—Put up one end of black card sliver and one of natural to six of regular grade natural. This gives 12½% of black and 12½% of natural.

Drawing, second—Put up one end of first drawing to seven of natural. This reduces the percentage of black nubs to about 1½%.

Slubbers—Assuming long draft slubbers, then process sliver to roving desired.

Spinning—To reduce the percentage of strips further, double roving with one end of fancy roving and one of regular grade.

Finishing Worsteds for Men's Wear

Technical Editor:

I inclose three samples of worsted fabrics for men's wear. I shall appreciate it if you will outline a suitable finishing process for these samples. How long must I leave them in the decating machine? How many inches wide should they be at the loom? (8870)

The loom width on sample No. 1 should be about 68 in.; on No. 2, about 66 in.; and on No. 3 about 70 in.

A typical finishing process for Nos. 1 and 2 would be a thorough scouring in the cloth washer, hydro-extracting or vacuum extracting, drying to 61 in., shearing back one run, shearing face three runs or until patterns are clear, fine sewing, steam brushing to within 2 in. of desired finished width, pressing hard—if full decating machine is used, 3 min. each way, 5 lb. steam, pump cold.

For sample No. 3—a melton type or unfinished worsted—the following process should give the desired finish: Full to 56 in. width and 2½ or 2 in. up in length; scour and dry to 62 in. shear two runs on back—not too close; shear four runs on face—closer but not bare; steam brush and press the same as for Nos. 1 and 2; decate 5 min. each way, 5 lb., pump cold.

For fulling, boil up 8 oz. of good soap with 3 oz. of alkali, boil together at least 3 hr., having the tank ¼ full of water at start. When boiled, fill tank with cold water; keep stirring while filling tank.

For scouring only, use the following formula: 5 oz. good soap and 3 oz. alkali to each gallon, boiled up the same as for fulling.

In scouring, to insure a good handle, put goods in the washer dry (unless a soaping machine is available, when they should be run through the soaper the same as for fulling and run into a washer). Without a soaper; load up in washer dry and run around to straighten out tangles. Stop washer and add 4 pailsful of scouring soap for each piece. Start up; if within a few minutes they do not show a good lather, add enough soap to bring them up to a good healthy lather. Run in this solution for 10 min. and if the lather is still healthy and not too dirty, continue for 20 min. more; then

rinse in cold water for 1¼ hr. Some finishers prefer hot water, but this often affects the color. If the first soap shows dirty, it is well to open the gates after a 10-min. run; let the lather run out all that will, using no water. Next close gates and add enough extra soap to work up a good clean lather; run 20 min.; then wash off as above, using no hot water.

For sample No. 3, soap up in a soaper or fulling machine, using care that just the right amount of soap is put on thoroughly to wet out the goods. To determine this—after a few minutes run—wring out a portion with the hands, and if it shows a creamy lather, not too wet, run until the fabric is shrunk to the correct width and length up.

Put in washer, add just enough cold water to start a lather, if the solution shows dirty in 10 min., open gates and allow to run off, using no water; add enough scouring soap for a second lather and run 20 min.; rinse in cold water for 75 min. Goods having silk decorations are treated to a light acetic acid bath before taking out of washer. Cover the goods with cold water, put a pint of acetic acid in a pailful of water, pour into washer, allow to run 7 min., do not rinse off, take goods out with acid in, extract and dry.

The soap solutions may seem heavy to some finishers, but it is real economy to use a heavy soap both for fulling and scouring. A heavy soap helps to avoid washer or fulling mill wrinkles and imparts the desired handle.

Finishing Rayon Taffeta

Technical Editor:

Sample No. 2 is a type of rayon cloth which is known in Columbia as "cold silk." In trying to duplicate it, we made Sample No. 1, but it turns out that this sample does not have the same flexibility as No. 2 and has the very serious defect that the threads separate easily. We can make the sample No. 2 as far as the fabric is concerned, using the same kind of yarn as this sample has in the warp and filling, as we have the yarn in stock; but we are inclined to believe that it is in finishing this cloth where we are having trouble. In short, we ask: First, why do the threads in cloth No. 1 separate so readily? Second, is there any process for the cold finishing of the cloths, and is it in this way that the finish is given to sample No. 2? (8871)

Sample No. 1 is what is commonly called rayon taffeta in this country. The following method of handling is typical: First, the cloth is subjected to a 2-min. treatment at full width in a cold solution of 3° Be. caustic soda. It is then rinsed lightly or squeezed and passed in the rope form through a hot soap or fatty alcohol bath. This results in an initial shrinkage of 12 to 15%. A final rinse in water completes the scour. The dyeing is carried out in the usual manner. After drying, most rayon taffetas are decated as a final operation. This sets the fabric and mellows the cloth so that it is softer and more flexible. The flexibility apparent in the "cold silk" sample is probably due to a combination of the initial caustic treatment which swells the fiber and the final decating treatment which tends to condition and mellow the material.

Causes of Neps, and Their Elimination

Technical Editor:

Would you please tell me what causes neps and how they can be elminated? We are running ⅜s – 62s – 64s wool and an end from the gill after the combing process will average 12,000 to 20,000 neps/lb. Are the neps caused by improper setting of workers on the cards, dull wire, split pins in gill boxes, overproduction, or what? (8861)

A count of 12,000 to 20,000 neps per lb. equals 750 to 1,250 neps per oz. A very successful commission combing mill considers any over 75 neps per oz. as poor combing.

Neps are formed mostly in the carding process. An excessive number of neps may be due to many causes. Imperfect scouring which leaves the wool in a matted or stringy condition results not only in neps but also causes an increase in noil. At the card, neps may be caused in many ways: overcrowding the card; poor clothing—dull or badly worn wire; clothing not suitable for the wool; imperfect setting of the workers—too wide settings; cylinder not true; fancy speed too slow; fancy not set deep enough; incorrect speeds of workers and fancy; wool too moist; poor distribution of the oil or emulsion when used, and other causes. Neps will always be found in worsted carding because length of staple must be maintained. Therefore, the carding must not be too severe.

The combing process is supposed to remove most, if not all, of the neps. Judging by the immense number of neps in the tops in question, the combing must be poor. Causes of defective combing are many. If carding and gilling are poorly conducted, if the comb is overcrowded or pinning too coarse for the wool, it will be impossible to comb satisfactorily. Defective pinning—bent, broken, split, missing or spread pins; circles out of true; circles set too wide at tangent point; improper action of the dabbing brush—not set deep enough and/or set too far back of tangent or ahead, will allow thousands of neps, etc. to pass into the top.

Do not blame the comb for poor carding. Examination of the webs coming from the cards should reveal the quality of the carding. In the absence of samples, the causes of neps must be generalized. If trying to comb fine wools using cards, gills and combs suitable for coarse or medium wools, poor results must be expected.

Elimination of neps may be brought about by bringing wool from the dryer in an open, lofty condition containing about 20% to 25% moisture—not free moisture, and having a thorough distribution of oil or emulsion. Do not overload the cards. Keep wire in good condition. Use correct speeds and settings. Gill the stock thoroughly before combing. Use more draft before the comb than on the finisher gills. Do not overload the comb. Suitable weights—oz. per 5 yd.—range from 6½ oz. to 7 oz. for ⅜s blood and not over 6½ oz. for finer wools. Keep pins well set up; dabbing brushes in good condition and, if possible, have at least 15% moisture in the comb balls, 70% of moisture in the room and a room temperature that will maintain the warmth of the machines.

Set Marks In Spun-Rayon Fabric

Technical Editor:

Maybe I can be of little help to the inquirer who sent in the Question No. 8846 which appeared in your May, 1942, issue. Of course he does not state whether he is running his looms with let-off motion or rope friction, how many picks to the inch, whether the cloth has a heavy beat up or not, but my suggestions might help.

I have had a lot of trouble with set marks, and this is the way I was able to overcome such marks.

First, I check my crank arms for evenness. Remove all play from crank arms, reed cradle, make sure my train of take-up gears is working perfectly. Loom friction should not slip. I would divide by dobby to a perfection, time my shedding as early as I can get away with, and put on as much weight on the warp as I can.

If you follow this procedure, and the loom still makes set marks, you will have to rig up a tension release that works with your brake handle or shipper. Whenever the loom is stopped, it holds up the weights a little and keeps the strain off of the yarn. Also release your stop pawl on the take-up so whenever the weaver pulls the lay back to start the loom, it will automatically take up one pick, helping to eliminate the set marks.

COTTON SECTION—Part II, Chapter II—Loom Reeds

By IVAR MOBERG

RUST, INJURY, ABUSE and careless storing of reeds necessitates their discard long before they are worn out. Rarely, if ever, is the normal life of a reed reached and while the actual cost of a reed is very small, the large number of inactive reeds that accumulate about a mill make the gross cost of this item considerable. Any effort made to reduce reed cost results in lower weaving charges.

There are two types of reeds ordinarily used, namely the pitch band reed and the all-metal reed. Of these the pitch band reed is the most commonly used for weaving, probably because of its lower cost. It is the writer's opinion the all-metal reed will replace the pitch band reed on cotton, as it has done on silk and rayon because the all-metal reed is stronger and built more accurately than the pitch band reed. In the all-metal reed the reed wires are spaced accurately by steel wires which are drawn to a fraction of an inch, while in the pitch band reed the reed wires are spaced by forcing them between and into cotton twine impregnated with pitch. Since the resistant to identation by the cotton twine is not constant, it is obvious that some reed wires are forced deeped into the twins at some places. This will, of course, space the wires at irregular intervals. When weaving certain classes of goods irregular spacing of reed wires will produce reed marks in the fabric and although the fabric may not be classified as second quality, it will be of inferior manufacture which may result in the loss of future orders.

Reed wires are of two types, the flat and the oval. Flat reed wires have their sides parallel with rounded edges while the oval reed wires are oval and tapered from the center of the wire towards each side. Some millmen maintain that the oval reed wires will result in better weaving conditions since they are not so apt to shear off knots and other protrusions on the yarn. It is the writer's opinion that in cotton weaving this point is only theoretical and that the thinner edges of these wires may cause the shuttle to wear rapidly on the back.

It is paramount to good weaving that the air space in a reed be of proper proportions. The air space is the distance between two adjacent reed wires which is, in the majority of cases, between 55% and 60%. However, in very fine reeds this amount of air space may not be practical as it might necessitate making the wires so thin that they would not stand up. Thus, on very course reeds the percentage of air space may have to be reduced to eliminate reed marks caused by too much freedom of the warp threads in the reed. Unless, from previous experience, the proper air space is known, it should be left to the judgment of the reed manufacturer.

A portion of a pitch band reed is illustrated in Fig. C-9. The end reed frame pieces should have stamped on them the length of the reed, the dents per inch and the total usable dents. Such information assists in locating a reed of the desired size in storage. In addition, it should carry the date of manufacture as shown in the illustration. This information is very helpful in checking on the life of the reeds.

An all-metal reed is shown in Fig. C-10 with part of the split tubing broken away to illustrate the construction. In the manufacture of these reeds the reed wires are first set temporarily in unpitched cotton twine on the reed machines. The spacer springs, made from drawn wire of exact size, are then inserted between the dents of the reed. The guide rods, one on each side of the reed wires, are pushed through the springs to hold the latter in place and the reed is then forced together until the reed wires are spaced corresponding to the size of the wire in the spacer springs. Solder is applied to hold the reed. A split brass tube is slipped over the large spacer spring to form a rib, equal to that of the usual pitch band reeds. Reeds made in this manner are accurately built and possess strength and durability.

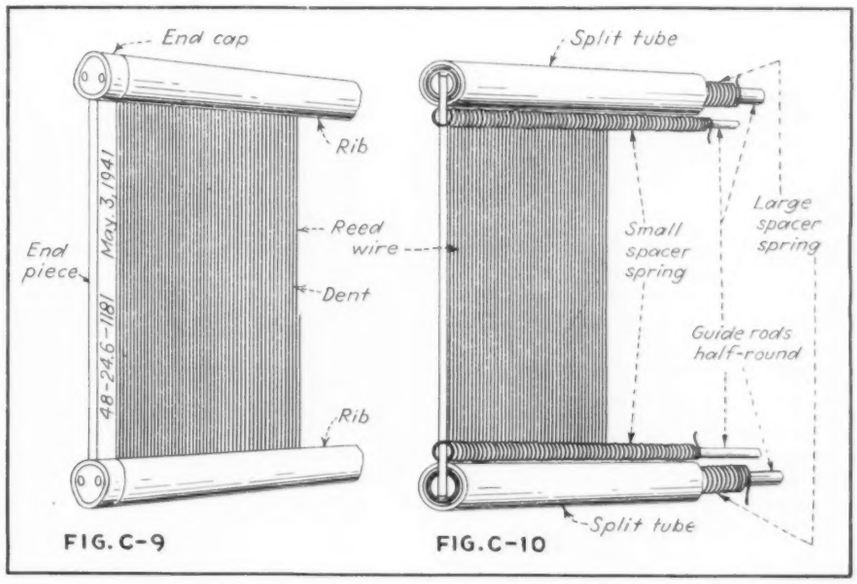


Fig. C9. Pitch band reed as frequently used in cotton weaving.

Fig. C10. All-metal reed now being used extensively for cotton weaving.

FIXING HOSIERY MACHINES

CIRCULAR MACHINES—Chapter XVII

Pattern Mechanism for 25-Step Machines

By JULIAN W. HUGHES

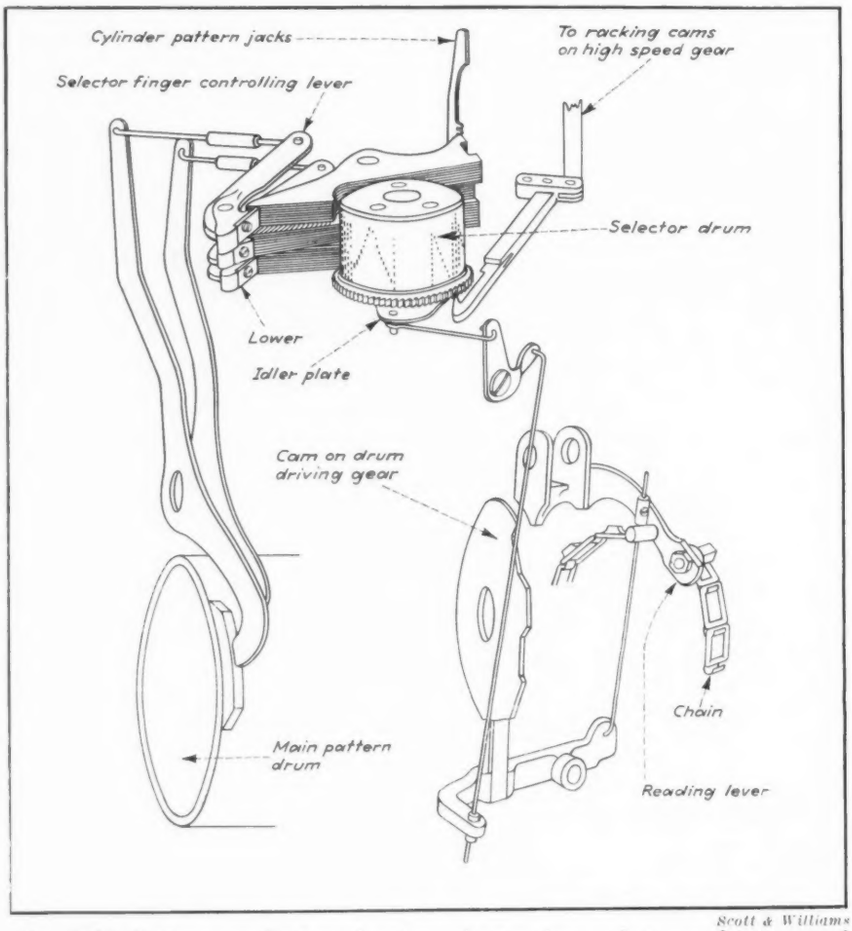
FLOAT STITCHES are produced by feeding two separate yarns to form the leg and foot of fancy hosiery. As in reverse plating, one of these yarns appears on the inside of the knitted fabric and the other on the outside. By dividing the needles into two levels by the controlling action of jacks, jack cams, and selector cams, the needles carrying the outside yarn, or facing yarn, can be made to form float stitches. This method of patterning hosiery is embodied in the Scott & Williams spiral machines which are capable of knitting float stitches in 13 and in 25 continuous steps. The 13-step spiral float stitch machine preceded the 25-step machine, but as the same basic principles are incorporated in both machines and the 25-step model soon replaced the 13-step spiral, only the 25-step machine will be described.

Advantages of the 25-step spiral machine over those of previous manufacture are the ease of adjusting and setting up patterns. The cylinder of the machine is entirely above the frame of the machine and selector drum which controls the action of the pattern jacks through the medium of a series of reader cams which are mounted vertically on the main bed plate. A secondary bed plate is provided just above the main bed plate to support the needle actuating mechanism. This arrangement of parts makes maintaining and setting up patterns comparatively simple.

The pattern mechanism is illustrated in Fig. C46. It is described in Scott & Williams Instruction Sheet No. I-1468 as follows:

Operation of Pattern Mechanism—"The pattern mechanism consists of: (1) cylinder pattern jacks, one of which is in every needle slot, under the regular needle jack, and each pattern jack has 26 butts: (2) a selector drum having 96 jacks, each of which has 25 butts; (3) 25 selector fingers each of which is operated by one of the 25 butts on the 96 selector drum jacks and which, in turn, operates by depressing, the cylinder pattern jacks by contacting with a corresponding butt of the uppermost 25 butts. The selector fingers are permitted to go into action or are removed from action by selector finger levers, of which there are one, two or three. These levers are controlled from the main pattern drum. They are fitted with plates of various widths in order to contact and control the number of selector fingers required, according to the pattern.

"The selector drum is racked by means of cams on the high speed gear, through a suitable rod and pawl to a rack wheel on the drum. One cam on the high speed gear gives four course racking, two cams give two course racking and four cams give single course racking. By this is meant that the selector drum is allowed to remain on each jack for four, two, or one course, thereby permitting the pattern as controlled by each jack to be produced for this number of courses before a change takes place. During parts of the stockings when it is not desired to have the pattern mechanism in action, the selector drum racking pawl is prevented from racking the drum by means of a plate held under it. This plate is controlled by a cam on the drum driving gear and connected by means of a lever, rod, and bell crank. An auxiliary control is also provided and actuated by high lugs on the left side of the chain. This last mentioned auxiliary means of control is used principally for short periods of idling or for continuing some feature of the pattern, such as vertical lines."



Scott & Williams

Fig. C46. Pattern mechanism showing selector drum, chain mechanism, and main pattern drum.

FREE FOR THE ASKING

Readers interested in literature reviewed on this page may secure copies by writing to Textile World, 330 West 42nd St., New York, giving their company connection, title of item desired, and date of issue in which it was reviewed.

Textile Machinery Catalog for 1942 has been issued by Rodney Hunt Machine Co., and is of a descriptive nature with 126 pages. Catalog TM 42 covering textile finishing machinery will be of great interest and assistance to mill men. General features, dimensions of many types of dyeing machines, washers, fulling mills and other plant finishing machines are contained and also covered in the catalog are wood, rubber, metal and stainless steel rolls; wood tanks, repair parts and water power equipment. Incidentally, contained in the catalog are four excellent full page photos of New England scenes taken by Rodney Hunt men on various occasions during their travels.

Immediate delivery of machinery from stock is discussed in an article in the August-September issue of *Davis & Furber News*, published by Davis & Furber Machine Co. This article lists the various pieces of textile equipment now in stock and points out how various mills with PD rating certificates may obtain immediate shipment.

Long-draft spinning no longer makes necessary the high relative humidities that were formerly thought essential. This subject is discussed along with various relative humidity recommendations in the August issue of *Park's Parables*, published by Parks-Cramer Co.

Infra-red ray combustion equipment as used in the textile industry with tenters, dryers, palmers, singers, slashers, etc., is discussed in a folder entitled Infra-Red Ray, published by Red-Ray Mfg. Co.

WPB allocation classification order numbers in summary form printed on a handy letter-size card have been made available by Westvaco Chlorine Products Corp. On the reverse side of the card is a tabulation of the order numbers and classifications covering military and civilian goods.

The wool of 10 sheep must be carded to outfit one soldier, is an interesting statement made in the August issue of *The Howard Way*, published by Howard Bros, Mfg. Co. This is one of a number of interesting statements concerning cloth required to equip our armed forces.

Manual for Civilian Defense is offered by United States Testing Co. This interesting 15-page manual covers the subject of preparedness, how to blackout, your safest place in an air raid, fighting the incendiary bomb and much other important information concerning civilian defense. Of special interest is that section of the manual devoted to illustrating the insignia of civilian volunteers.

Shelter Halves used by the Army for sheltering soldiers are sketched and material furnished covering the manufacture of army cotton mattress covers are contained in the August issue of *The Needle's Eye* published by Union Special Machine Co. Of special interest is an article entitled "New Machines for War Production," describing two new Union Special machines developed to help speed the manufacture of army wearing apparel.

"Keep 'Em Rolling" a new sound motion picture produced by B. F. Goodrich Co. is described in a booklet issued by this company. This picture deals with the tire situation and actually shows the manufacture of synthetic rubber and illustrates the many industrial uses necessary for rubber to keep the Army flying and to transport it to its destination.

Rayon warp sizing, as handled in England, is discussed in the July-August issue of the *Rayon Warp Sizing Specialist*, published by Charles B. Johnson Machine Works. Of special interest is a photograph showing paratroops equipped with nylon chutes ready to make a descent.

Inclosed bus bar distribution system for handling electricity about plants and mills is described in Bulletin No. 337 offered by Trumbull Electric Mfg. Co.

Handbook on wire cloth and other woven wire products describes various types of metallic filter cloth, wire cloth and other woven wire products. Illustrations of various types of wire cloth and tables containing specifications are contained in this 116-page handbook, published by Newark Wire Cloth Co.

Liquid density recorders and automatic measurement and recording instruments for determining density are described in a bulletin entitled "Liquid Density Recorders," issued by Foxboro Co.

Iron pipe, its history, properties and applications including outstanding records under severe conditions in a number of specified fields, are covered in a 48-page catalog entitled "Toncan Iron Pipe," offered by Republic Steel Corp.

Continuous lighting system for fluorescent lamps is described along with the various fittings and parts necessary to make such an installation in bulletin F-61 issued by Day-Brite Lighting, Inc.

Linear measuring units intended to indicate the length of cloth, various types of stroke counters and electrically operated counters are described in Bulletin No. 100, published by Durant Manufacturing Co.

Enamel that may be applied to water-soaked surfaces of concrete, steel, wood, brick and plaster and dried into a tough, flexible waterproof finish is described by the Steelcote Manufacturing Co. in their bulletin on Damp-Tex.

Conservation of copper, in line with the salvage program of WPB, is dealt with in a booklet published by General Electric Co. titled 5 Ways to Conserve Copper. This booklet indicates how even small mills may conserve this vital metal by using distribution lines with high voltage circuits.

Slitting equipment designed to slit or cut fabrics or paper to desired widths is described in a bulletin issued by Johnstone Engineering & Machine Co. For many purposes, cloth being used today by the Army and Navy is woven in wide widths and then slit into ribbons or tapes of the size desired.

Raw stock and finishing machines designed to help manufacture Army, Navy and Marine cloths, either as separate units or as group of units, and used in mills in actual operation on the complete range of Army and Navy woolen and worsted and on union fabrics, are described in the May issue of *The Hunter Counselor*, published by James Hunter Machine Co.

A pictorial story of some of the textile and other industrial concerns in the South that are responsible for industrial developments is contained in a booklet entitled "In the South It's American Mutual" issued by American Mutual Liability Insurance Co.

Protective coatings of various types, along with results of various tests conducted, are described in a folder offered by Protective Coatings, Inc. These coatings are suitable for protecting metals, wood, fabrics, and other materials.

Surface-active agent N-25-C, possessing unusual detergency and good wetting-out properties is discussed and its textile applications listed such as scouring, wetting-out, as a dye bath leveler, etc., in a bulletin issued by E. F. Houghton & Co.

Control instruments indicating temperature and remote controllers are described in bulletin Z6000 put out by Wheelco Instruments Co.

Wax-fortified paints and their ability to reduce maintenance costs are discussed in a folder offered by S. C. Johnson & Son, Inc.

Handling loaded skids by means of a draw-jack where ordinarily a four-wheel truck would be required for handling such loads is discussed in Bulletin A-630 issued by Electric Wheel Co.

Packaging of war materials with steel strapping is described in *Acme Process News*, Issue No. 7, published by Acme Steel Co. The use of steel strapping in cotton test-bales is described and an illustration of such bales is shown.

Spinning troubles traceable to roll covering and their proper solutions are covered in a release issued by Gill Leather Co.

Advantages and increased production with a 16-feed rib knitting machine working on military fabrics is covered in a leaflet issued by Wildman Mfg. Co.

NEWS OF THE MONTH

Sees Limited Net Profit for Duration

Prospects for a period of limited net profits for the duration are noted in the annual report to stockholders of Pepperell Mfg. Co. by Russell H. Leonard, treasurer. His reasons for this belief are: "Price ceilings have been placed on all cloth sold and are therefore rigid, whereas some of the elements of the cost of production are disturbingly not rigid. For example, at the time of writing this report, the all-important factors in cost, namely cotton and labor, have not been frozen. These elements, together with the very severe tax schedules, combine to erect an impregnable barrier against any large net earnings in the immediate future."

The report, which was for the year ended June 30, 1942, shows net profit of $1,965,146, after $3,350,000 provision for Federal and State taxes, as compared with $1,868,543 in the previous fiscal year after $984,167 provision for Federal and State taxes and $500,000 provision for contingencies. Net sales for the year ended June 30, 1942 totalled $48,221,968, as compared with $38,639,270, an increase of 25%.

American Woolen Half-Year Figures

Sharply increased provision for Federal income and excess profits taxes cut heavily into the net profits of the American Woolen Co. for the first half of 1942, with the result that although net sales totaled $96,501,776, as compared with $66,292,908 in the same 1941 period, an increase of 45%, the net profit for the six months amounted to $1,659,401, after all charges and 1 million dollars addition to special reserve for contingencies, as against net profit of $4,905,625 for the six months ended June 30, 1941, after all charges, but without provision for special contingency reserve. The profit for the half year is equivalent to 1.72% on the net volume of sales as compared with 4.76% for the entire year 1941.

Profit from operations for the first half of 1942, before income taxes, totaled $15,759,401, as compared with $9,554,260 in the same 1941 period.

Hosiery Mill Making Small Plane Parts

Girls who formerly operated knitting machines are now making small airplane parts at the Se-Ling Hosiery Mills in Nashville, Tenn., according to Roscoe Arant, regional business consultant of the U. S. Department of Commerce office in Atlanta. He cited this as an example of the way in which small manufacturers "can meet the changing problems of today."

The quality of the work was so satisfactory that the demand outgrew the capacity of the machines. A manufacturers' pool was organized with six other shops.

Fashion Program Geared to War

Stating that cotton is the most adaptable as well as the most plentiful of fibers for war-time clothing purposes, Virginia Jewel, fashion director of the Cotton-Textile Institute, told the Southern Regional Conference on Wartime Clothing at Birmingham, Ala., that the institute had keyed its entire educational and fashion promotion program to the war.

"With the shortages of other fibers, cotton is going to be just as important for winter this year as for summer," said the speaker. "It can be warm as well as cool, and we are conducting a nation-wide campaign to broaden its acceptance for fall and winter. Garment manufacturers have designed warm reversible coats of corduroy and water-repellent poplin, reversible quilted velveteen and percale, hollow-cut velveteen and wide-wale corduroy, powder-puff jackets lined with corduroy, and wool coats with cotton backing and cotton linings. There are cotton suits and dresses to keep every American family attractively warm and comfortable in cold weather, robes of corduroy, velveteen, and quilted cottons, and flannelette pajamas for the whole family."

SIX WORK-GARMENTS FOR WOMEN exhibited at recent convention of Southern Garment Manufacturers Association in Atlanta. Left to right: one-piece coverall with long sleeves of herringbone twill; two-piece coverall with matching apron of sports denim; two-piece in-or-outer coverall of navy twill; bib overall with matching shirt of covert; jumper overall of pin check with separate shirt; jumper dress of work chambray with separate shirt.

Begin Listing of Scientific Personnel

The National Resources Planning Board has begun to questionnaire scientifically trained men of military age in order to list them in the National Roster of Scientific and Specialized Personnel. In addition to a general questionnaire, persons qualified to be listed as chemists receive a special check list. In textiles there are three categories: (1) textile processing, including dyeing, printing, and bleaching; (2) textile fibers, including cotton, silk, wool, rayon, Nylon, etc.; and (3) specialists in the field of dyes.

Hosiery Research Staff in New York

The research and technical staff of the National Association of Hosiery Manufacturers was moved last month from Washington to New York after 20 years in the capital.

Need for space at the National Bureau of Standards in Washington, where the staff has been located, led to the transfer, the association stated.

At the same time it was made known that the association's quarterly statistical bulletins will be suspended temporarily, reserving the annual issue for such data. The monthly

reports will be sent out to members as usual. The reason for dropping the quarterly reports is laid to the many demands now for special reports and studies resulting from war regulations.

Regarding the transfer of its technical staff to New York, the association points out that it will have the advantage of placing E. M. Schenke, the staff's head, at the service of members visiting New York.

Hosiery Bond Plan "Sets a Pattern"

The joint management-labor war bond plan established to achieve the 10% payroll goal in the key sections of the hosiery industry throughout the country was described recently by Secretary Henry Morgenthau, Jr., as "setting a pattern which may well be followed in many other American industries." The goal for the drive is $5,000,000 in War Bonds within a year; 100% participation in payroll savings by some 40,000 workers; and 10% of the payroll invested in War Bonds.

The plan for cooperation was developed by three associations and the American Federation of Hosiery Workers. The employer associations are: Full-Fashioned Hosiery Manufacturers of America, Keystone Hosiery Manufacturers Association, and the Guild Hosiery Conference. The plan covers the unionized section of the industry.

Determining Costs on War Goods

A pamphlet entitled "Explanation of Principles for Determination of Costs Under Government Contracts" which may be obtained from the Superintendent of Documents, Washington, D. C., for 10¢ makes available for the first time in printed form a definite outline of the manufacturing and other contract performance cost items, and expenses of an administrative and distributive nature which are allowable under contracts with the Army, Navy, or Procurement Division of the Treasury Department. Companies dealing directly or indirectly with any or all of those departments, either as contractor or sub-contractor, will find this pamphlet of definite value.

RECEPTION ROOM at the Cotton-Textile Institute office in New York has been entirely redecorated in cotton. Rug, wall covering, and draperies of modern cotton types in restrained designs illustrate that cotton furnishings are as appropriate and attractive for the office as for the home.

Changing from Silk to Synthetics?

Walton

EASILY INSTALLED — LOW COST

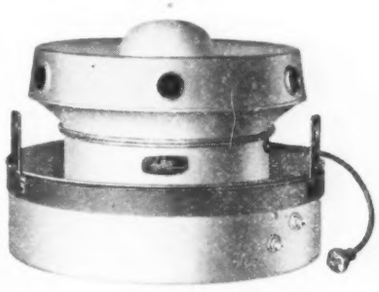
CONTROLLED HUMIDIFICATION

Synthetic fibres demand proper humidification to a much greater degree than natural fibres. But the problem of the speedy installation of low cost *reliable* humidifying equipment is solved by WALTON HUMIDIFIERS. Centrifugally operated, installed "overnight" without expensive ducts. Give and maintain exactly the right degree of moisture anywhere in the mill.

HEAVY DUTY HUMIDIFIERS

SPECIFICATIONS:

Vaporizes a minimum of 1-gallon per hour.
Furnished complete, ready for installation.
Overall dimensions, 18" diameter, 14" high.
Vapor discharged horizontally.
No heating coils used.
Powered by G. E. ball bearing motor, 110-120V 60C, drawing approximately 100-watts of electrical current.
Tank equipped with adjustable float valve and supplied complete with hanging brackets.
D.C. available at slight increased cost.



QUOTATIONS FROM LETTERS

FROM PENNSYLVANIA: "We have the units up and running and experienced quite an improvement in our weave room . . . placing herewith an order for additional units, kindly send quickly as possible. Should they come in this Friday we would be able to get same connected up Saturday morning."

*** FROM CONNECTICUT: "Very much impressed with humidifying system you installed at Angus Park Woolen Mill in Hanover, Connecticut, in their card room. Would like very much to talk with someone regarding a similar installation."

***** FROM OREGON: "Bought the 2 Industrial Humidifiers for use on some virgin fine wool cards. Installed them on arrival and they have given us excellent service. Tried several other devices for humidifying air in vicinity of these cards, but none of them worked nearly so well as your machines. Very well pleased . . . should we have occasion to run more cards on this type of cards, we would not try to run the stock without buying your humidifiers."

FROM NEW YORK: "Gives me great pleasure to advise you that the 2 Humidifiers installed here are working entirely satisfactorily. They keep room at about an average of fifty-percent humidity: we also find the difference of moisture in the air is beneficial to our operators."

****This mill purchased 2 Walton Industrial Humidifiers.*
*****This mill recently purchased 2 additional Walton Industrial Humidifiers.*

WRITE US

for complete information. Let us show you how you can put in Walton Equipment "overnight"—without expensive duct work, and get the humidity your textile processing demands. Prices are low compared to results accomplished.

WALTON LABORATORIES, INC.

1186 Grove Street

IRVINGTON, NEW JERSEY

FIBBER McGEE: "Our sponsor's mighty busy makin' wax-fortified paints."
MOLLY: "An' they're very good paints too, McGee!"

JOHNSON'S

Wax-Fortified

Made by the makers of Johnson's Wax

MILL WHITE GLOSS

. . . an industrial enamel impregnated with genuine wax

This MILL WHITE is an outstanding industrial enamel. Thanks to a remarkable discovery in paint making, Johnson's MILL WHITE is impregnated with genuine wax, which gives it these added advantages when used on walls, ceilings, etc. . . . (1) you get a wax-smooth surface that repels dirt and lint; (2) the wax-protected surface resists mildew; (3) it maintains high, long-lasting light values.

In these days when ways to reduce maintenance time and conserve materials are most important, Johnson's Wax-Fortified MILL WHITE can be most helpful. Available for application by brush or spray.

Write for the "Why and What" of Wax-Fortified Paints. Get the complete facts and specifications on Johnson's made-to-reduce-maintenance-cost paints.

S. C. JOHNSON & SON, Inc.
Industrial Maintenance Division
Dept. TW-92 Racine, Wisconsin

Honor Awards

The Army and Navy "E" awards have been made lately to the following firms:

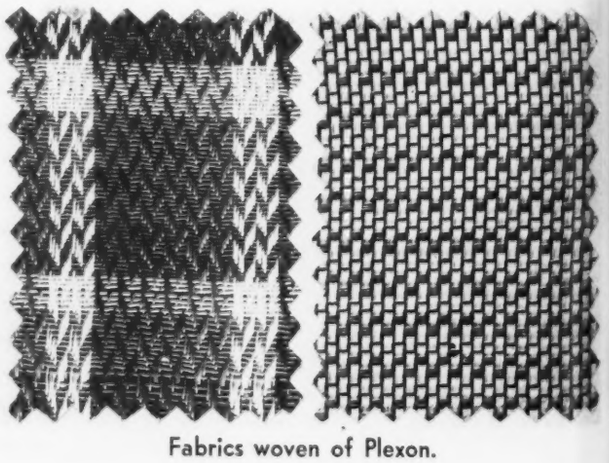
Johnson & Johnson, New Brunswick, N. J.
J. L. Stifel & Sons, Wheeling, W. Va.
Hampshire Woolen Co. and Ware Woolen Co., Ware, Mass.
Chatham Mfg. Co., Elkin, N. C.
Monsanto Chemical Co., St. Louis, Mo.
De Laval Steam Turbine Co., Trenton, N. J.
Ohio Injector Co., Wadsworth, Ohio
Philco Corp., Philadelphia, Pa.
Clinton (Mich.) Woolen Mfg. Co.
Bauer & Black Division of Kendall Co., Chicago, Ill.
Leeds & Northrup Co., Philadelphia, Pa.
Hooker Electrochemical Co., Niagara Falls, N. Y.
American Lava Corp., Chattanooga, Tenn.
Greenfield (Mass.) Tap & Die Corp.
Scoville Mfg. Co., Waterbury, Conn.

The Minute Man flag has been awarded by Treasury Department for War Bond payroll subscriptions to the following firms:

Gaymont Mills, Ludlow, Vt.
National Oil Products Co., Harrison, N. J.
Ashland Corp., Jewett City, Conn.
Sonoco Products Co., Hartsville, S. C., Rockingham, N. C., Garwood, N. J., Mystic, Conn., and Lowell, Mass.
Steel Heddle Mfg. Co., Philadelphia, Pa.
Manville-Jenckes Corp., Manville, R. I.
Firestone Cotton Mills, Gastonia, N. C.
Tilton Worsted Co., Laconia, N. H.
Washington Mills Co., Fries, Va.
Marshall Field & Co., Fieldale, Va. (Towel and hosiery mill)
Arlington Mills, Lawrence, Mass.

New Coated Fiber

A process of coating of fibers with a clear or a colored plastic has been developed by Freydberg Bros.-Strauss, 212 Fifth Ave., New York. Yarn so coated is called Plexon. The process may be used on both rayon yarns and those made of natural fibers. Rayon as fine as 150 den. has been coated. Plexon, it is stated, has a slightly greater strength than the uncoated yarns from which it is derived. If desired, the coated yarns can be fused together in parallel order so as to form a long, continuous belt. Plexon can be used for weaving, knitting, and braiding. Advantages cited are that the yarn is moisture-proof, resistant to mild acids and perspiration, and may be finished in either bright or mat and in opaque or translucent effects. Plexon may be used in fabrics for draperies, upholsteries, handbags, and for shoes.



Fabrics woven of Plexon.

VEAVE ROOM WORRIES STOPPED

SUNOTEX OILS

REDUCED THREAD BREAKAGE . . . STEPPED UP PRODUCTION

Brittle filaments . . . broken ends . . . weave room troubles were a constant nightmare in a large rayon mill weaving low (50-75) denier, high sley acetate warps.

Finally, with the weave room practically shut down, a Sun Textile Man —one of those Doctors of Industry—was called in. His recommendation of a change from a well-known softener to **Sunotex RS-48** in the slasher mix was the answer—other materials remaining the same. The quick penetration, excellent softening and thorough fiber-lubricating qualities of **Sunotex Oils** reduced broken ends to a new low . . . machines were speeded up to rated production . . . and weave room worries stopped.

This is just one example of how Sun Doctors of Industry and **Sunotex Oils** are helping textile men to solve today's production problems. Their services, and other products for processing wool and other fibers, are yours to use. And for proof of what they can do for your plant, write . . .

SUN OIL COMPANY · Philadelphia

Sponsors of the Sunoco News Voice of the Air—Lowell Thomas

SUNOCO

N PETROLEUM PRODUCTS HELPING INDUSTRY HELP AMERICA

Rigid priorities are in effect. Replacements are out. Alert management knows it must protect existing metal surfaces against the ravages of rust.

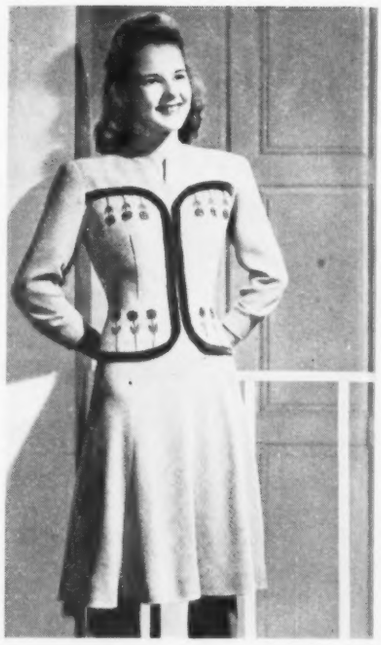
This can be done in only one way—by using a truly rust-inhibitive paint system. Bar-Rust priming coats are scientifically designed to grip those precious metal surfaces and afford maximum protection against rust. Tough Bar-Rust finish coats are specially designed to resist exposure, inside or out. The Bar-Rust System is your guarantee against depreciation.

Let a Devoe Maintenance expert advise with you. Write us, today, for the informative Bar-Rust booklet No. BR-2.

DEVOE & RAYNOLDS CO., INC.

The 188th year of the oldest paint-maker in America

FIRST AVENUE AT 44th STREET, NEW YORK, N. Y.



A NEW TECA CHECK from Juilliard makes a slim and sprightly casual dress. The fabric is a soft, worsted-like weave containing Eastman crimped acetate rayon.

moisture-proof, resistant to mild acids and perspiration, and may be finished in either bright or mat and in opaque or translucent effects. Among the uses for Plexon are in weaving fabrics for draperies, upholsteries, handbags, and for shoes.

Recommends Method for Counting Courses

The National Association of Hosiery Manufacturers has recently recommended a new method for counting total courses in round-heel stockings. The older method used for other types of hosiery has not been found satisfactory for round-heel hosiery made on single-unit machines. Therefore, it is recommended that on round-heel stockings the total courses be counted down to the toe looping. Commercial buyers in order to make comparisons should obtain from their source of supply information as to the total courses in the foot of standard construction, and add these foot courses to their previous total course standards to obtain a comparison with the new-round heel standard.

To Study Ageing of Sulphur-Dyed Textiles

The American Association of Textile Chemists & Colorists in its program of cooperation with the Government on war problems has recently organized a committee to study the problem of ageing of sulphur-dyed textiles. This project will include the development of a reproducible accelerated ageing test. The committee, which is in close contact with the Philadelphia Quartermaster Depot, is headed by T. R. Smith of Wiscassett Mills.

TEXTILE CALENDAR

National Association of Cotton Manufacturers, annual meeting, Copley-Plaza Hotel, Boston, Oct. 1, 1942.

Committee D-13, American Society for Testing Materials fall meeting, Hotel Pennsylvania, New York, Oct. 14 to 16, 1942.

National Chemical Exposition, Sherman Hotel, Chicago, Ill., Nov. 17 to 22, 1942.

National Exposition of Power & Mechanical Engineering, 15th annual show, Grand Central Palace, New York, Nov. 30 to Dec. 5, 1942.

When Strategy Calls for Camouflage!

Call for camouflage! . . .

Cotton bagging—to disguise power plants and munitions factories on the production front . . .

Netting—to camouflage gun emplacements on the fighting front . .

Curtains . . . to prevent dimmed-out ocean boardwalks from silhouetting ships at sea . . .

You, and every mill in the Textile Industry, face the urgent need for producing thousands of yards of cloth for camouflage. It's an extra job—in addition to your full-time responsibility of clothing and equipping America's fighting men.

Mill engineers and superintendents are meeting the challenge of production by keeping their mechanical equipment at top-notch efficiency.

In the Wet Finishing Department of leading textile mills, Butterworth Machines are working day and night. The cooperation of Butterworth Engineers is freely offered to every mill seeking to achieve increased productive efficiency . . . or to repair or replace worn-out or obsolete equipment.

While Ordnance production has first call on our facilities, we are still building Textile Finishing Machines as required in America's great war program.

H. W. BUTTERWORTH & SONS CO.
Phila., Pa. Serving the Textile Industry since 1820
Offices in Providence, R. I. and Charlotte, N.C.
In Canada: W. J. Westaway Co., Hamilton, Ont.

***64%**

of equipment now in use in the wet end of textile finishing cannot operate at a profit in competition with modern machines.

"Proved by Research

Butterworth

PRODUCING GUN MOUNTS FOR THE UNITED STATES ARMY

DO YOU KNOW?
1. You can WATERPROOF canvas with plastics?
2. You can FLAME-RETARD canvas . . . and the finish will not wash off?
3. You can ROT-RESIST canvas . . . and fungi will not thrive?
4. You can use a plastic compound to finish canvas . . . and thus extend its life?
5. How readily this modern finished canvas is cut and worked?
6. To what extent chemistry has been enlisted to make practical "Canvas Life Extension"?
THE 3 SABOTEURS OF CANVAS ... HAVE MET THEIR WATERLOO
WATER
FLAME
ROT
PHIL-PRO-TEX
You will find the answers to these six vital questions concerning "Canvas Life Extension" . . . and more information, too . . . in this 12-page bulletin.
Write Philadelphia Textile Finishers, Inc., 3701 N. Broad St., Philadelphia, for Bulletin A
PHIL-PRO-TEX
REPELS
WATER · FLAME · ROT

BUILT TO COPE with today's wartime sea hazards is this "overall" life-saving suit that also has attention-getting devices such as "built-in" flashlight, whistle, and yellow hood and yellow-palmed gloves. The new, self-buoying garment is being made by B. F. Goodrich Co. It weighs a few ounces over 14 lb. and slips on over a sailor's regular clothes.

Southern Combed Yarn Meeting

Annual meeting of the Southern Combed Yarn Spinners Association was scheduled at Charlotte, N. C., Sept. 18, the principal speakers to be Maj. Gen. E. B. Gregory, Quartermaster General, and Lawrence A. Appley, consultant on civilian personnel to Secretary of War Stimson. Details will be published in our next issue.

Georgia Operating Executives Meet Sept. 19

Textile Operating Executives of Georgia will hold their fall meeting on Sept. 19 at the Callaway Auditorium, La Grange, Ga. There will be an exhibit of Army uniforms and supplies, and discussions of personnel problems, plant maintenance and material conservation. Details will be given in our next issue.

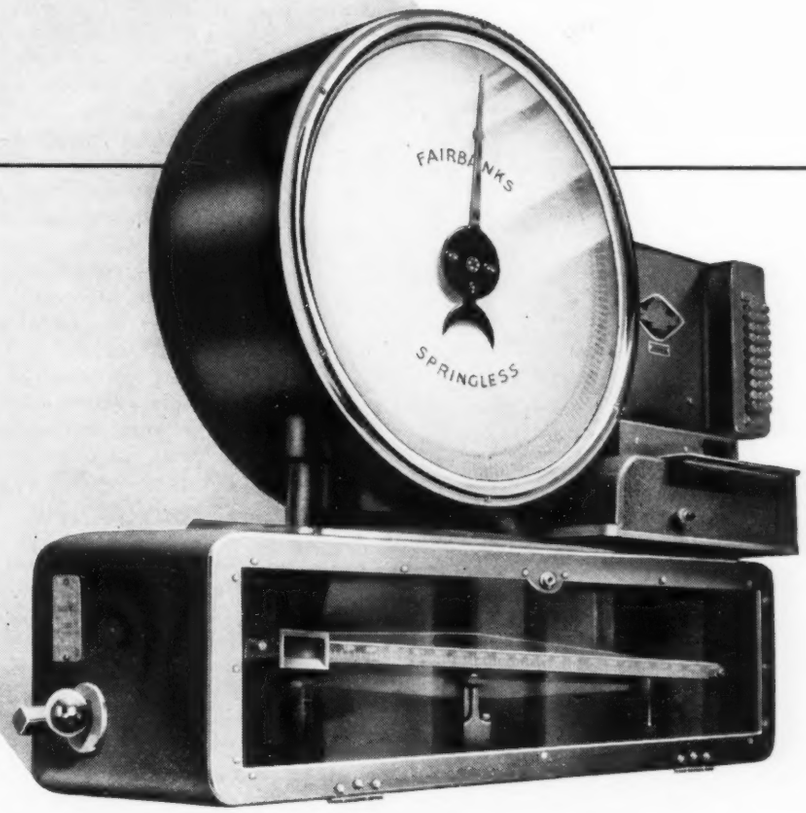
Power Show in New York Nov. 30 to Dec. 5

Timely displays will feature the 1942 National Power Show which is being planned as a direct aid to war production. The exhibits will be of particular interest to engineers and operating men who are faced with many new production and maintenance problems, as well as the many new men with industrial responsibilities. Scheduled for Grand Central Palace, Nov. 30 to Dec. 5, the 15th National Exposition of Power and Mechanical Engineering will be celebrating its 20th year of service to industry. The management announces that 170 spaces have already been definitely engaged by 137 concerns, and there will probably be at least 175 displays by the time the exposition opens.

Government Encourages Hemp in Kentucky

A hemp-breaking plant-construction program is planned for 1943 in Kentucky, according to Floyd Clay, who has been appointed administrator of the Federal Government's hemp-producing program conducted in Kentucky and other areas. Mr. Clay recently resigned as head of the Hemp Growers Cooperative to take this Government position. It is said that the new program involves the erection of about 80 hemp-breaking plants at a cost of $200,000 each. The plants will be built in communities where at least 5,000 acres of hemp are produced.

THESE SCALES HELP UPSET THE AXIS TIMETABLE!



THE speed and accuracy of modern Fairbanks Scales, and their many ingenious applications, are helping rush war matériel production.

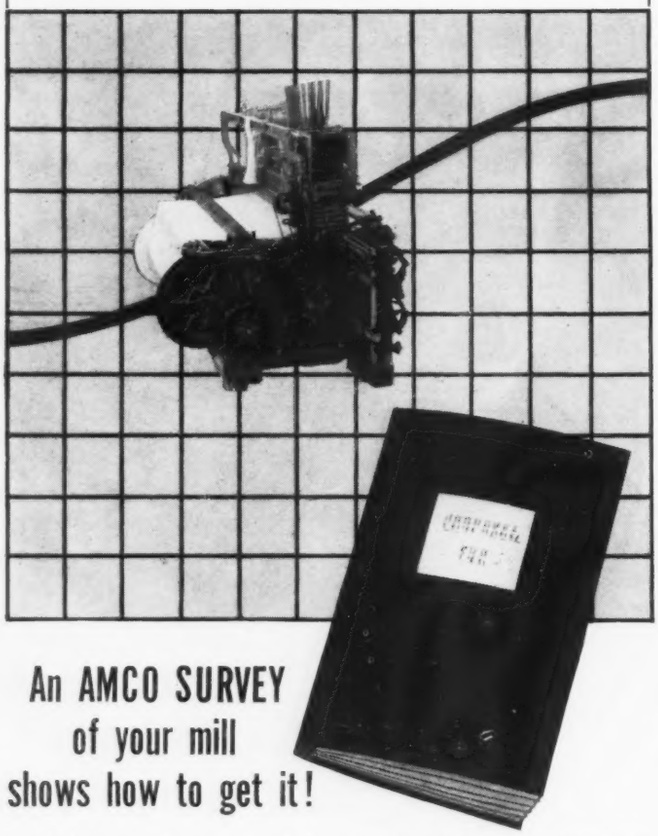
Use your priority to get Fairbanks weighing equipment that will not only save precious minutes now but also serve you best in years to come.

Fairbanks scale engineers are ready to help you plan for today with an eye for tomorrow. Fairbanks, Morse & Co., 600 S. Michigan Ave., Chicago.

FAIRBANKS-MORSE FAIRBANKS SCALES

SCALES
DIESELS
MOTORS
PUMPS

HIGHER OUTPUT
from Old or New Machines!



An AMCO SURVEY of your mill shows how to get it!

Unless you have actual data on humidity conditions in your mill, you may be missing an easy way to step-up output from every machine. For, *correct* humidity is one of the surest aids to increased production throughout your entire mill.

Why not find out? Let Amco engineers survey your mill without obligation. They'll submit a complete report including detailed plans for an Amco System that will remedy any incorrect condition . . . maintain most-productive humidity every minute at every machine!

Get This "Ace-In-The-Hole"

If lack of priorities eliminates the possibility of immediate installation, now's the time to provide an "ace-in-the-hole" for post-war competition. Let us survey your mill *right now!* Then, you will be in line for *preferred delivery* of Amco Equipment when peace comes.

WRITE TODAY! American Moistening Company, Providence, Rhode Island. . . . Atlanta . . . Boston . . . Charlotte.

Amco
HUMIDIFICATION

This and That

A new application has been developed for rayon yarn. It has been used in the production of paint brushes to replace the Chinese and Siberian bristles formerly imported for the purpose. The substitute is said to be a resin-treated, multi-filament viscose yarn.

Importance of the preservation of vital business records against damage by bombing and other war violence was stressed at the August meeting of the Uptown Credit Group in New York.

National Rayon Corp., Cleveland, which succeeded to the business of Acme Rayon Co. last October, has found that rayon price ceilings offset against increasing wage costs are forcing the company to operate at a loss. The company has petitioned OPA for permission to make sales on the basis of a price per pound sufficient to operate without loss.

Domestic wool output in 1942 is estimated by the Department of Agriculture at 392,346,000 lb. This quantity is the largest domestic production on record being about one-half of 1% larger than 1941, the previous record year.

Baling instead of bagging western wool is being recommended by the Department of Agriculture to save baling materials and freight-car space. At a recent experiment in Montana 162 bags of wool which required two 40-ft. freight cars for shipment, were repacked in 62 bales and shipped east in one 40-ft. car.

Bulletin No. 10 of the State Planning Board of South Carolina analyzes the advantages of industrial sites in that State for the woolen and worsted industry.

General Electric automatic, self-heating wool blanket facilities are being devoted to the making of heated flying suits for the Army Air Corps.

Magnet Hosiery Mills, Clinton and Lake City, Tenn., for the second time in nine months defeated the CIO union's effort to get itself appointed bargaining agent in an NLRB supervised election. The Anderson County Employees Association won the election.

The rayon plant of E. I. du Pont de Nemours & Co. at Buffalo, N. Y., is using transmitted music in the plant to maintain the morale of employees and speed up the tempo of war work. Throughout the day 12 minutes of continuous music follow each other with 18-minute intervals.

Cotton and rayon finishers were advised last month that a proposed WPB order affecting plain shades and prints will not be issued for the present. However, rayon finishers are asking converters to cut down their requirements for dark shades to not more than 50% of each order.

A commercial standard for cotton and rayon velour has been adopted and will become effective on new production beginning Nov. 10. It is Commercial Standard 103–42.

An investigation of the feasibility of installing air-conditioning systems in industrial plants, especially cotton mills, in the South will be carried out as fast as possible, according to the South Carolina Department of Labor.

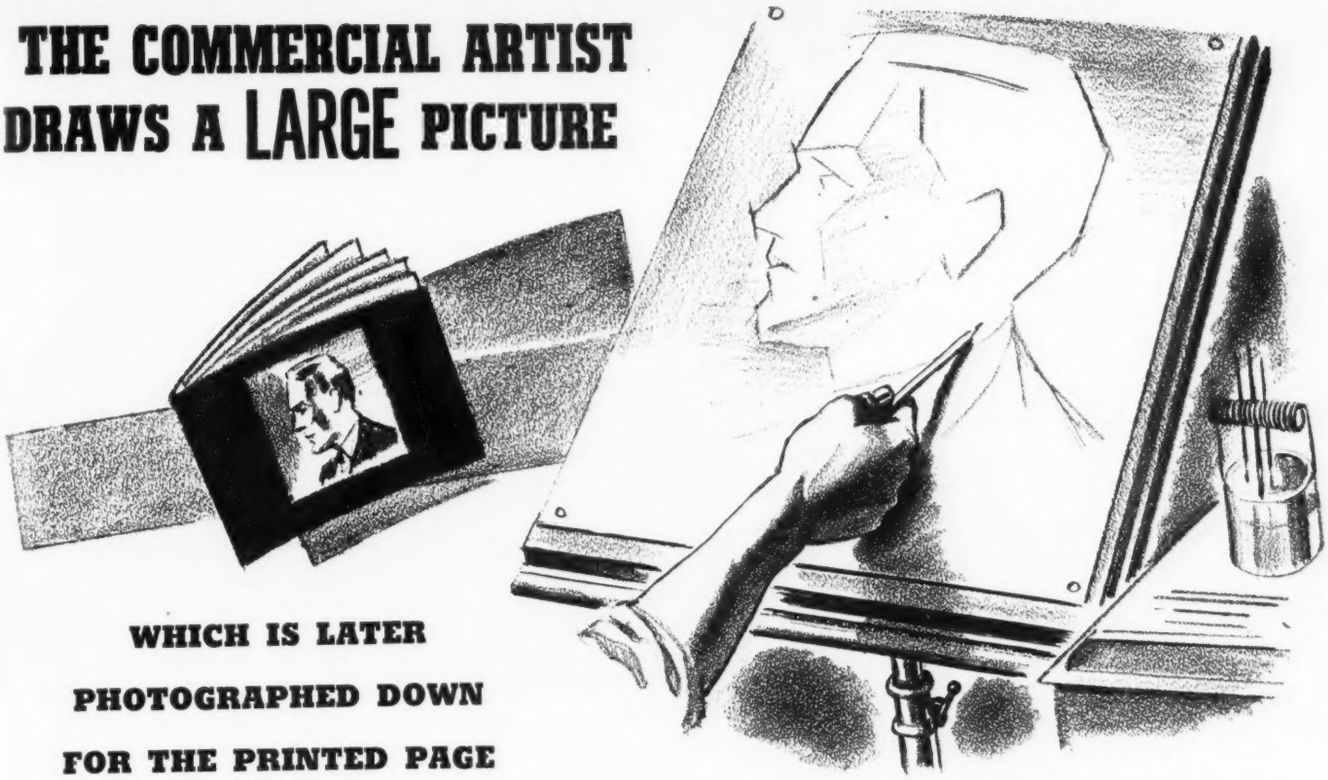
Standard color card for olive drab, khaki, and drab sewing threads has been issued by the Textile Color Card Association at the request of the Army Quartermaster General.

A course in fabric testing and inspection will be given at North Carolina State College, Raleigh, N. C., beginning on Sept. 28 and running for 12 weeks. All expenses except board, room rent, and books are paid by the Federal Government. This is the sixth course of its type to be offered at North Carolina State.

New method for piece-dyeing flannels in a Navy blue color for the Navy has been developed by Fulton Rindge, treasurer, Hampshire and Ware Woolen Co., Ware, Mass.

The Cotton-Textile Institute has appointed Rogers & Smith, Dallas, Tex., as its advertising agency. The principal of this agency, Herbert A. Rogers, originated the "Cotton Freshness" campaign now being conducted by the cotton

THE COMMERCIAL ARTIST DRAWS A LARGE PICTURE



WHICH IS LATER PHOTOGRAPHED DOWN FOR THE PRINTED PAGE

Thus the commercial artist develops the finer detail of his work *more easily*, and the many rough spots and other imperfections *disappear* in the reduction.

Suppose he started with a small drawing to make a larger print. The finer niceties of his art would be far *more difficult* to attain and all his minor inaccuracies would be magnified in the finished product.

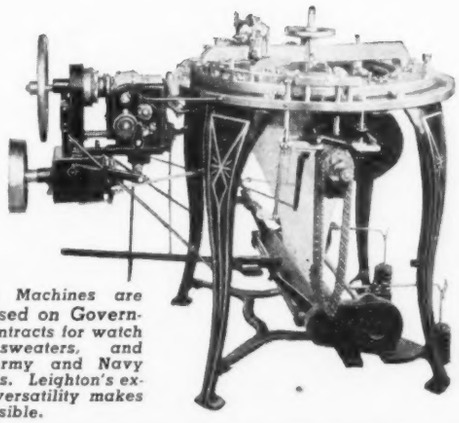
Yet the latter procedure is exactly the one followed by many knitters of ribbed fabric, because the cams on their dials work in a *smaller* space than do the hooks of the needles. (Note the knitting circumference indicated on the picture of the ordinary inner dial and remember that the cam circle is *inside* this.)

Not so on the Leighton rib machines. Here the cams of the famous Leighton needle plate or "outer dial" act on the needles at their most widely diverged point (see photograph of Leighton outer dial). Hence, like the commercial artist, Leighton machines draw on a large scale to produce a superior finished product on a smaller scale. All minor inaccuracies at the cams are *reduced*—not *enlarged*.

And this means also that Leighton cams have easier bevels and that the yarn is drawn into stitches with very little strain on the stock, each stitch being formed almost completely before a second stitch is drawn from the yarn. As one result of this, good fabrics can be knit from heavy or fine yarn on the same machine without changing the needle cut—an outstanding Leighton advantage, *now being proved in the war emergency*.

Finally, the outer dial, providing wider lands between the needles, is stronger.

Rely on Leightons to produce superb and saleable Knitted Sportswear and other Outerwear Garments



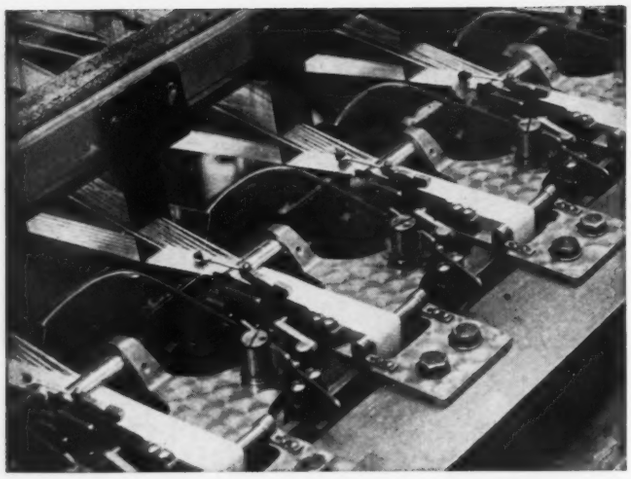
Leighton Machines are being used on Government Contracts for watch caps, sweaters, and other Army and Navy Garments. Leighton's exclusive versatility makes this possible.

69 Years' Experience

LEIGHTON MACHINE COMPANY

MANCHESTER, NEW HAMPSHIRE

Est. 1873 **Inc. 1894**



CLUTSOM HIGHSPEED WEAVING MACHINES

The Clutsom highspeed shuttleless loom gives high production in a wide range of narrow textile fabrics.

Rigid or elastic webbing, tapes, zipper tapes, venetian blind tapes, rug bindings, ribbons and hospital webs are some of the various items in regular production.

Wages have risen—operators are costly—no material should be wasted that can be saved. The Clutsom machine gives greatly increased production for the same amount of wages paid—cuts material waste to the minimum—no skilled labor required.

A demonstration machine can be seen at this address.

It is possible at present to give limited delivery of machines immediately.

CLUTSOM MACHINES INC.

205 EAST 42 STREET NEW YORK

Telephone MUrray Hill 4-2327

FACTORY: Springdale, Connecticut

industry under the direction of Ed Lipscomb of the National Cotton Council.

The National Association of Manufacturers has issued a 184-page "Handbook on War Production" designed to aid manufacturers in meeting their war production quotas and solving their conversion problems.

National Association of Cotton Manufacturers has organized a Department of Industrial Relations, to furnish information to members on any matter of this nature.

Mills Seek Orders with High Priorities

Cotton goods mills are selecting their civilian orders on the basis of the priority rating which the buyer can offer. Failing to get a high priority the average commission house is loath to sell. It was reported difficult to obtain standard print cloths without priorities. On Aug. 6 Cone denims were priced for September delivery at 19¾ c., whereas the ceiling had been 20¼ c. The month's output was sold up within 24 hours, the goods being allocated to regular users. This price action anticipated the rollback order of OPA effective Aug. 26 on a wide range of goods going into work clothing. The recent granting of wage advances further limits mill margins.

Wool goods have been meeting limited civilian business but further large orders for military purposes are offered. Mills have been slow to undertake the fiber blending which the Government has tried to encourage. Some mills may use their wool allotments for all-wool lines and when that is consumed simply withdraw from the civilian market. The Government is hostile to this step and may take further action to compel blending. Mohair has been released for civilian use without restriction. The current summer season has been backward in tropical weight clothing, but there will be no clearance sale of Palm Beach suits this year according to a letter sent to the trade by the Goodall Co.

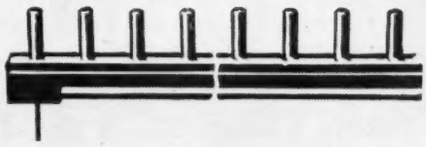
Rayon yarn supplies for the last quarter of the year are expected to be considerably tighter than at present since a greater poundage is going into military fabrics as months go by. Increase in production of high-tenacity yarns for war requirements will curtail the volume of standard yarns available for civilian goods. Prospect of further cuts in allotments makes many yarn users hesitate about developing new fabric constructions. Fabric successes of the last year will be repeated with possibly slight variation or refinement. Neckwear fabric producers are cooperating to avert possible reduction in production of neckwear by government order.

Hosiery men are forecasting a scramble for rayon hosiery within the next month or so since the retail market is likely to become active after Labor Day, and there are definite limits on the amount of rayon yarn available for hosiery which retailers may not yet comprehend. Half hose business remains quiet. The trade is looking to development of silk-rayon blends in hosiery for the coming winter.

Underwear sellers expect a rush for heavy-weight lines on the part of consumers early this fall in anticipation of a lower indoor temperatures next winter due to the fuel oil shortage. There is little heavy-weight stock available and underwear with a wool content will be difficult to obtain. Again the possibility of spun rayon underwear lines appears attractive, but very little has been done in preparing such numbers. Manufacturers are planning their civilian spring trade and a few mills are said to have made offerings to customers for the first quarter of 1943.

Outerwear market is preparing for the Christmas holidays and embroidered novelty sweaters, popularly known as Tyroleans, are a bright spot for women's wear. Staple goods, however, are still in the lead. One house is bringing out an attractive line of shawls which have received quick acceptance by retailers and will soon be featured in magazines.

NEW STATIC PROBLEMS *from New Fibers . . . New Blends*



New Products

PARACHUTE CLOTH
POWDER BAG CLOTH
BALLOON CLOTH
GAS-MASK CLOTH

and countless other WAR fabrics are new to many of the mills making them.

Speed up the war effort by eliminating the static problem AT ONCE!

Call a Chapman engineer

CHAPMAN

since 1904, have been world pioneers in static elimination. It's engineering and sales staff are experienced in textile-mill work.

DON'T LET STATIC DELAY PROGRESS

NEW SYNTHETIC fibers are pouring on to the market—Nylon, Vinyon, Cordura, Tenesco, Aralac, and others. Many of them bring new and varying problems demanding prompt solution. Static is one of the most important of these problems. Even where fibers absorb moisture readily, static continues present in some degree. This problem can be eliminated because a Chapman Static Neutralizer can be applied to practically any machine quickly and at small cost. It eliminates static electricity instantly before it causes trouble.

Chapman Neutralizers are performing yeoman service in many long-established textile mills today on the older fibers—cotton, wool, rayon, etc.—on cards, drawing frames, slashers, warpers, and other machines. Don't let static hold up your progress on either the new or the old fibers. Call in a Chapman engineer!

Take action NOW! Do not delay! We, too, are busy but anxious to give prompt service. Write our TEXTILE DIVISION. Chapman Electric Neutralizer Co., Portland, Me.

CHAPMAN ELECTRIC NEUTRALIZER CO.

Eliminators of Static Electricity in Manufacturing Operations

PORTLAND ★ MAINE

What do you expect of

Certified Climate?

Are you figuring on stepping up your machine operating speeds?

Do you expect to benefit by higher and more dependable REGAINS; more uniform numbers, of greater strength, smoother and more compact drafting; less waste and fly?

Or — even without an increase in operating speeds, do you figure that fewer stops, fewer piecings, fewer seconds will step up production?

Textile Air Conditioning results most satisfactorily when production men and Certified Climate engineers work together as partners.

Parks-Cramer Company

Fitchburg, Mass. Charlotte, N. C.

Fast Dyes Available

But care is needed in their selection for specific purposes

"CAN I still get fast colors today? Can I get the shades I want? Has the war put fast colors on the critical list for the duration?" These, and similar questions are much in the news today. Many informed textile manufacturers and converters are not concerned. Other textile men not directly connected with the dyeing and finishing divisions have been led to believe that if an acute shortage doesn't already exist, one will in the immediate future.

What is the true situation today? According to S. C. Moody, of Calco Chemical Division of American Cyanamid Co., there is no shortage of fast colors today, "provided the dyes are selected to meet specific purposes and uses. For example, dyes selected for a drapery fabric must be fast to dry-cleaning and sunlight. A work shirt fabric, on the other hand, must be fast to sunlight, perspiration, and soap and water. Dyes selected for a rayon bathing suit must meet still another set of specifications and be fast to salt water, sunlight, and perspiration. In each instance the problem is to choose the right dye for each job, instead of going on the assumption that fast colors are equally fast on all types of fabrics and to all types of exposure.

"It is true," Mr. Moody asserts, "that certain shades, such as olive drab, are restricted in fast colors, due to the enormous concentration of Government purchases on these particular shades. As a matter of fact, only 10 dyes out of more than 1,500 made in the United States are affected. Generally speaking, however, the present increased production of dyes plus lowered production of many civilian fabrics, have resulted in ample supplies of good fast colors for almost every conceivable purpose. If stylists and converters are in doubt about the availability of any particular shade, it's a simple matter to check up in advance with their color resources."

In regard to the advisability of preparing the consuming public against a possible future shortage of fast colors, Mr. Moody states: "It seems to me that any such policy, however sincere, is opposed to the program of conservation sponsored by the War Production Board. We are all urged to make consumer goods last longer. Applied to colored textiles this means: (1) a construction suited to the use to which the fabric will be put; (2) high tensile and abrasive strength; (3) fast colors. Fast colors have 'survival value'—they keep fabrics in service longer and are economical in the long run. Barring a sudden and tremendous need on the part of the Government, I think that consumers will be able to insist on fast color fabrics and apparel for an indefinite period in the future."

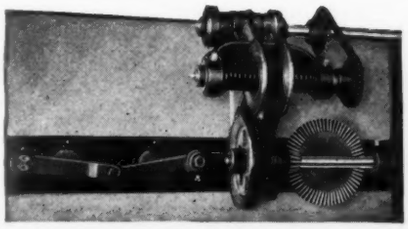
To Decide on Greenville Show

It was announced on Sept. 7 that the executive committee of the board of directors of Textile Hall Corp., Greenville, S. C., would meet within a few weeks to decide whether the Southern Textile Exposition, originally scheduled for April 5–10, 1943, shall be postponed. Committee's decision will be announced before Thanksgiving.

Southern Hosiery Meeting Deferred

Because of war conditions and resulting transportation crisis, the Southern Hosiery Manufacturers' Association has deferred its annual meeting, usually held in September.

Now . . . YOU CAN PIECE CARBONIZE WITH CONTROLLED TENSION AND WITH NO LOSS IN WIDTH OR WEIGHT . . .



PATENTED HUNTER RANGE DRIVE

ILLUSTRATION shows new development which holds predetermined tension on cloth from time it enters until it leaves the unit. Here are the important aids it gives to the salability of your fabric:

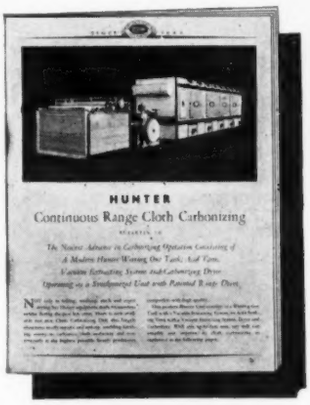
(a) Uniform tension on goods throughout unit.

(b) Complete elimination of impaired tensile strength.

(c) Complete protection against streakiness and marked surfaces on face finished goods.

(d) No tendering of cloth on seams or anywhere in piece.

(e) Absolute guarantee against building up of slackness and further risk of damage.



BULLETIN CC

THIS 8 page bulletin is copiously illustrated, gives detailed operating information and is supplemented by two valuable technical papers. Write for it today.

HUNTER offers the newest advance in carbonizing equipment with performance pretested and production guaranteed and costs determined before you install the equipment.

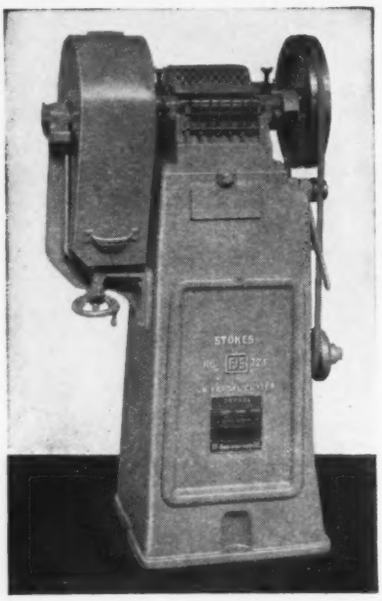
This modern Hunter unit consists of a Wetting-Out Tank with a Vacuum Extracting System, an Acid Soaking Tank with Pneumatic Squeeze Rolls, Dryer and Carbonizer. All Hunter drying equipment is sold under a production guarantee based on laboratory or field tests and backed by wide experience of practical drying. Not only do you take no risk, but every Hunter Unit is designed to the individual conditions in the customer's own mill, including character of cloth and all other essential details. Write today for Bulletin CC and complete information of the interesting proposal Hunter is prepared to offer you.

JAMES HUNTER MACHINE COMPANY

FOUNDED 1847 • NORTH ADAMS, MASSACHUSETTS

Western Representative: **E. G. PAULES, 343 Bendix Bldg., Los Angeles, Calif.**

For Cutting
RAYON
WOOL
SILK
FLAX
JUTE
COTTON
and Other
Fibres . . .
Wet or Dry



This Improved Machine Makes 500 to 20,000 Knife Cuts per Minute

●

Handles 4 to 8 Tops or Equivalent, Simultaneously

This new Stokes Universal Fibre Cutter is productive, economical and flexible, cutting fibres to accurate lengths at high production rates and handling wet or dry materials. The full range of fibres, from 8" length to Flock, is produced by four quickly interchangeable cutter heads. The variable speed drive is instantly adjusted while operating, to obtain maximum production in cutting any material. The speed of the cutter head is synchronized with that of the feed rolls to maintain close accuracy in length of cuts.

Other features include Self-sharpening Knives; Tension Release for Feed; Hand Wheel Adjustments while operating; Balanced Heavy Duty Cutters, ball bearing mounted. Four standard cutter heads are available, as follows:

Cutter Head	Length of Cut	Approx. Cuts per Min.
A	8" Max. 1/2" Min.	500 (single strand)
B	4" Max. 1/4" Min.	1,500 (single strand)
C	2" Max. 1/8" Min.	3,000 (single strand)
D	For Flock	20,000

Write for new illustrated Bulletin 42 FC with complete description and specifications of this machine . . . ideal for cutting fibres to lengths required for mixed or 100% spinning and other special purposes.

F. J. STOKES MACHINE COMPANY
6004 Tabor Road Olney P. O., Phila., Pa.

F.J.Stokes FJS Est 1895

"Enlisted for the Victory"

Bibb does swell job in dramatizing its part in war effort

ONE OF THE BEST public-relations jobs done by a textile company in the direction of dramatizing its part in the war effort is the publication of the booklet "Enlisted for the Victory" by Bibb Mfg. Co. This booklet includes a series of colored photographs showing the many ways in which Bibb products are actively engaged in the war. Among these products are the seine twine which Bibb customers make up into camouflage nets; the duck used to make the folded, rub-

Where Bibb war-products are used

berized canvas boat carried in bomber planes; the specially-treated duck used on portable aircraft shelters, called "Panzer Hangers"; the cord used for parachute shrouds; "Heat Resistant" tire cord for the Army and for other vital transportation; yarn for insulation of wires in war radio communication; yarns for webbing for rifle slings.

One of the pages, illustrated herewith, is entitled "Bibb Yarns and Fabrics Go to War."

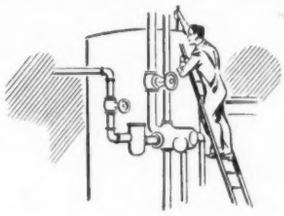
Stillwater Changes Corporate Set-Up

The present Stillwater Worsted Mills is about to change its corporate name to Harrisville Combing Co. It will then sell those of its plants engaged in worsted yarn and worsted cloth manufacture to a new corporation, which has just been formed under the name of Stillwater Worsted Mills, Inc. This new corporation will engage in the manufacture of worsted yarn and worsted cloth, and will sell its products through Stillwater Sales Co., which it will also acquire. The new company will have an option to acquire the wool combing plant of the old company at a future time. Officers of the new company will be Marcus Thompson, president; William H. Reid, first vice-president; William J. Gibbons, second vice-president; Elmer C. Mowry, secretary and treasurer, all with the old company for many years.

The manufacture of wool tops will be carried on by the old company, and Austin T. Levy will continue as its president and treasurer. The entire business operates plants in 11 locations and employs 1800. The old company's employee stock ownership plan will be adopted in its essential features by the new company. There will not be any offering of the securities of the new company to the general public. The acquisition of ownership by a group representing a younger generation, actively engaged in the business, provides assurance for the future along the general lines that have attended the progress of the company up to this time.

HOW TO MAKE YOUR ZEOLITE WATER SOFTENER LAST LONGER

There are a few simple precautions to observe to keep your zeolite water softener not only in good operating condition, but so that it will last during the emergency.



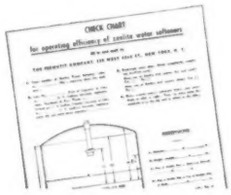
1. CHECK ZEOLITE. Is there sufficient to give you the soft water you need? If not, we can supply you from existing stocks. Send us a sample of your zeolite for free test, to see whether it is still efficient.

2. CHECK SALT CONSUMPTION. If your zeolite is efficient, you should use no more than a half pound of salt per 1,000 grains of hardness removed. Higher salt consumption may give you some additional capacity, but usually is not justified economically. When more capacity is required, the addition of a small amount of zeolite is the least expensive way to accomplish it.

3. CHECK QUALITY OF SOFTENED WATER. Are you sure that it is *completely* soft? If your water is not softened to zero, there will be waste of soap and other detergents, and there will be scale or sludge formation on heating surfaces of boilers.

4. KEEP SOFTENER FREE OF RUST and keep it painted externally for protection of the precious metal which is so difficult to replace.

5. DON'T OVER-RUN THE EQUIPMENT. Constant over-running will so load the zeolite with calcium and magnesium salts that it becomes difficult to regenerate.


CHECK CHART
for operating efficiency of zeolite water softeners

6. SEND FOR FREE CHECK CHART, which you can use to determine the efficiency of your equipment. We shall be glad to advise you on problems of maintenance and upkeep. Just drop us a note: The Permutit Company, Dept. B, 330 West 42nd St., New York, N. Y. In Canada: Permutit Company of Canada, Ltd. . . . Montreal . . . Toronto . . . Winnipeg . . . Calgary.

PERMUTIT WATER CONDITIONING HEADQUARTERS

MODERN DRYING
BY
CARBOMATIC*
RADIANT HEAT

Is Approved and Used by Leading Textile Mills and Prominent American Heat Engineers

★

Experience has proven that it will

1. Penetrate and dry UNIFORMLY.
2. Materially SPEED UP output.
3. IMPROVE the QUALITY of the finished product.
4. ECONOMIZE production costs on tenter frames, palmers, slasbers, textile printing drying, singeing, loop-dryers, etc.
5. Develop a NEW TYPE of DRYING in Government approved pigmentation compounds, and mildew proofing.
6. Allow FLEXIBLE TEMPERATURE CONTROL—delivering any heat intensity required.

★

No Proposals Made Without Results Guaranteed

★

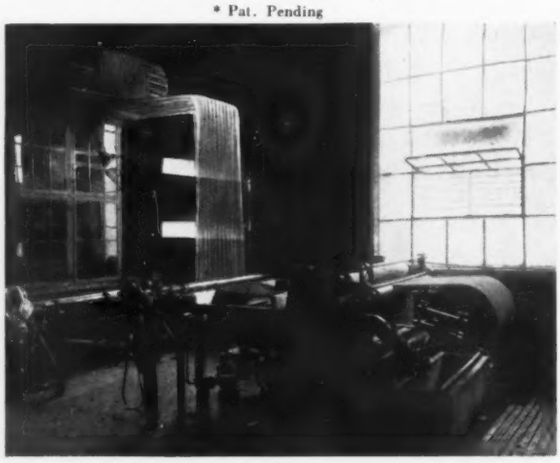
Send for representative. New Brochure now ready. Address Dept. T.W.-9

CARBOMATIC CORP.

Pioneers and Specialists in Infra-Red Ray Textile Drying.

General Motors Building—1775 Broadway
New York, N. Y. Circle 6-1495
FACTORY: New Haven, Conn.

* Pat. Pending



Carbomatic RADIANT HEAT INFRA-RED RAY DRYING UNIT installed at Progressive Silk Finishing Co. at Hoboken, N. J., where it has doubled production capacity

New "Crown-Tested" Plan

American Viscose sets up minimum performance tests based on fabric use

A REVISED and modernized "Crown-Tested" quality control plan has been introduced by the American Viscose Corp., New York and Wilmington. In general the essence of the change is the setting up of performance standards for specific uses, rather than construction standards. There is now a prime division of all Crown-Tested items into three classes based on the method of cleaning, whether suited to (1) commercial laundering, (2) hand-washing, and (3) dry-cleaning. A new series of tags has been prepared identified not only by instructions printed thereon, but by key colors: Green for class 1 above, yellow for class 2, red for class 3.

The performance tests include tensile strength, dry and wet, for woven fabrics, and bursting strength, dry and wet, for knit goods; resistance to seam slippage; dimensional restorability (which is limited to 2%); color fastness to laundering, perspiration, dry cleaning, hot pressing, crocking, sunlight, and atmospheric fading; permanence of finish.

The classes of goods by use include the following:

1. Woven sportswear; slack, trouser and jacket fabrics.
1A. Woven sport shirt fabrics.
1B. Knitted sport shirt fabrics.
2. Woven suiting fabrics.
3. Woven fabrics for dress shirtings, shorts and pajamas.
4. Woven lining fabrics.
5. Woven dressing gown, beachwear, and bathrobe fabrics.
5A. Knitted dressing gown, beachwear, and bathrobe fabrics.
6. Knitted underwear and pajama fabrics.
7. Woven bathing suit fabrics (other than those containing elastic yarn.)
7A. Knitted bathing suit fabrics (other than those containing elastic yarn.)
8. Woven necktie fabrics.
9. Woven rainwear fabrics (not including coated fabrics.)
10. Woven handkerchief fabrics.
11. Woven athletic uniform fabrics (football pants, jackets.)

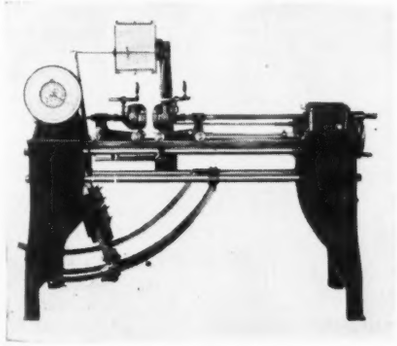
The fundamental purpose of the "Crown-Tested" plan, the company states, is to provide an added incentive for the production of serviceable fabrics, containing the American Viscose Corp. "Crown" rayon yarns and staple fibers.

The several reasons which influenced American Viscose in bringing out the new "Crown-Tested" plan at this time are as follows: (1) To cooperate with the war effort by establishing a set of standards designed to conserve raw materials, man power and factory equipment which might otherwise be wasted in the manufacture of rayon fabrics and apparel of inferior quality. (2) To meet effectively the rising public demand for durable merchandise and honest value by providing stabilized fabrics, regardless of price range. (3) To simplify labeling, not only for the information of the ultimate consumer but also for the mutual benefit of converters, finishers, manufacturers and retailers as well. (4) To help the industry in the development and marketing of new, serviceable rayon fabrics to replace those no longer available under wartime conditions. (5) To protect and maintain the public good-will now enjoyed by numerous reliable manufacturers and merchants and the American Viscose Corp. as a rayon producer, both during and after the current cycle of a wartime seller's market.

The minimum requirements that have been set up are based on research and are determined upon in large measure with reference to the use for which the particular type of fabric is manufactured.

Scott Testers help bring him safely to earth

100% of our production is for the War Effort. Among the applications of *Scott Testers in the war industries, one of the most important is the testing of parachute canopy fabric, shroud lines, and tape for risers and harness. In the manufacture of practically all of the 200-odd other textile products used for war, the 60 models of Scott Testers play a basic part. They facilitate purchasing, aid in research, speed manufacture, and assure quality of product. Scott Testers are Standard of the World for tensile, hysteresis, flexing, crepeage, adhesion, burst, tear, etc.



Model Q tensile tester, capacity 2,000 lbs., used for testing shroud lines, cords, twine, wire, etc.

Model J tensile and burst tester, capacity 500 lbs., used for testing parachute canopy fabric and riser and harness tape.

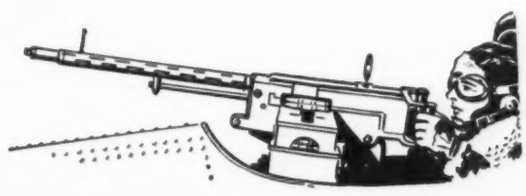
SCOTT TESTERS

*Registered Trademark

HENRY L. SCOTT CO., 95 Blackstone St., Providence, R. I.

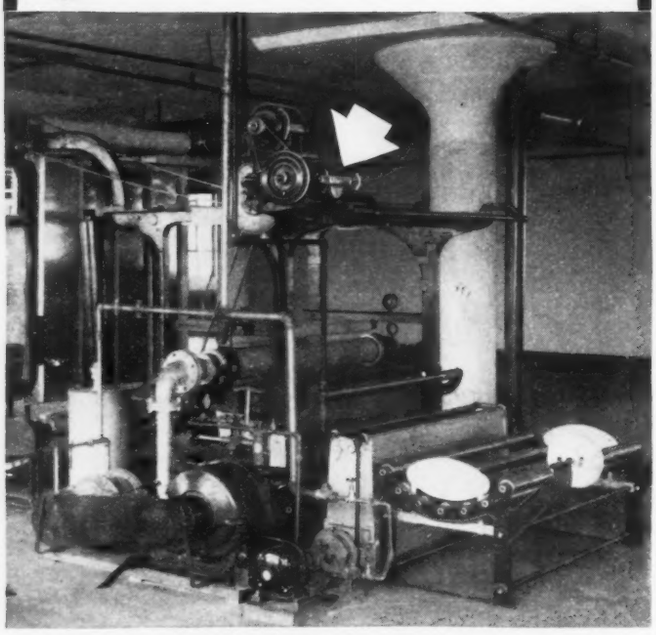
SCOTT TESTERS SAFEGUARD MACHINE GUN OPERATION

Our laboratory has recently developed a machine for testing the amount of load necessary to pull a machine gun cartridge from the belt—one of numerous special applications we are continually called upon to work out.



Scott Testers — Standard of the World

ACCURATE *Tension Control*



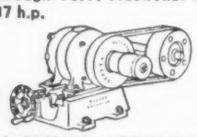
REEVES Helps Step Up Production of Cloth for U. S. Navy Uniforms . . .

● This Gessner textile plant, producing fabrics for Navy uniforms, is equipped with a REEVES Variable Speed Transmission to regulate the continuous flow of cloth through the dampener, sweating machine and dryer. All of these operations are affected by differences in the kinds of cloth and by temperature and humidity conditions, making frequent and extremely accurate speed adjustments necessary for best results and maximum output. The REEVES Transmission enables these adjustments to be made quickly and accurately, without stopping the machine. Result, cloth is carried through the plant entirely free from tension, output increased. . . . REEVES Variable Speed Drives, standardly supplied on leading makes of textile machines, are easily applied to machines in use. Send for Bulletin W-423, "More Output for Victory."

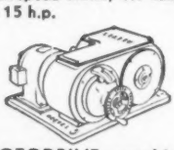
REEVES PULLEY COMPANY
COLUMBUS • INDIANA

3 BASIC UNITS

VARIABLE SPEED TRANSMISSION for infinite speed control over wide range—2:1 through 16:1. Fractional to 87 h.p.



VARI-SPEED MOTOR PULLEY for application to shaft extension of any standard constant speed motor; 3:1 range. To 15 h.p.



MOTODRIVE—combines motor, variable speed drive and gear reducer (if needed). Speed range 2:1 through 6:1; to 10 h.p.

REEVES Speed Control

NEWS ABOUT MEN

William Pinnell has resigned as general sales manager of J. L. Stifel & Sons, New York. Mr. Pinnell was for many years vice-president in charge of sales in the old firm of Fred Butterfield & Co.

Thomas K. Kearney has succeeded to the cloth brokerage business of C. P. Lord, New York. Mr. Lord is retiring after nearly 50 years in the downtown market. Associated with Mr. Kearney will be **Walter J. Walsh, Austin J. Hare** and **Harold J. Timmerman.**

B. T. Erwin, who recently resigned as vice-president and general manager of the Erwin Bag Co., Houston, Tex., has joined Percy Kent Bag Co., Kansas City, Mo., as sales manager.

John F. Glennon, general manager of Quissett Mills, New Bedford, Mass., has been elected president of the corporation, succeeding his father, the late Thomas F. Glennon.

Arthur T. Muelberger, for the last three years assistant sales agent in the New York office of Cabot Mfg. Co., has become associated with the Board of Economic Warfare.

Gordon F. Brine has been elected vice-president and a director of Nolde & Horst Sales Co., New York. He has been sales manager of the firm since March, 1941, when he resigned from the Rollins Hosiery Mills, Des Moines, Iowa.

Henry T. Bibbo and **Edmon D. Luke** are reported to have joined the sales office of Howard E. Bishop, New York.

William C. Summersby general manager for Gayle, Eureka and Springstein plants of the Springs Cotton Mills at Chester, S. C., has resigned to become executive vice-president of the Ware Shoals (S. C.) Mfg. Co. He was formerly agent of Bates Mill, Lewiston, Maine, having resigned that post to become general manager of the mills at Chester.

M. M. Trotter has been elected vice-president and director of purchases at Callaway Mills, LaGrange, Ga., succeeding **A. B. Edge, Jr.,** who has been made vice-president and secretary.

N. Barnard Murphy has been elected president and general manager of Trion (Ga.) Co., replacing **J. L. Riegel,** now chairman of the board.

R. E. Hightower has been elected vice-president of Thomaston (Ga.) Cotton Mills.

Clinton M. Powell, for many years connected with H & B American Machine Co. with headquarters at Charlotte, N. C., has accepted a position as agent with the Balston Yarn Mills, Lincolnton, N. C.

T. H. McKinney, chief of the Cotton Section of the Textile, Clothing and Leather Branch of WPB, has been appointed Special Assistant to Frank Walton, deputy chief of the branch. Mr. McKinney came to OPM, predecessor of WPB, last December. He is vice-president and general manager of the American Yarn & Processing Co., Mt. Holly, N. C. His home is in Eustis, Fla.

J. M. Withrow, gray goods consultant of WPB and formerly of the New York office of the Kendall Co., has been made chief of the new carded gray goods section of the carded fabrics unit. The carded colored good section of this unit is now in charge of **George Ward.**

Hugh Gordon Mullen, for two years general manager of the hosiery division of Vanity Fair Silk Mills, Reading, Pa., and for previous 20 years with Brown, Durrell & Co., New York, has joined the knit goods section of WPB.

Henry Giebel, who has been chief of the Nets and Laces Unit, has been promoted to chief of the Equipage Section of the Textile, Clothing and Leather Branch. Mr. Giebel is president of Thomas Wilson & Co., New York.

B. Foster Howell, southern field agent for Cotton-Textile Institute, has been named a member of the sub-committee of technical experts drawn from certain major trade associations which will assist the advisory committee formed by the WPB for the purpose of simplifying Government forms.

Thomas Bancroft, Old Westbury, Long Island, N. Y., who has been chief of the Carded Fabrics Unit of the WPB Cotton Section, has been appointed chief of the Cotton Section. Mr. Bancroft succeeds **T. H. McKinney,** who has been made assistant to **Frank Walton,** deputy chief of the Textile, Clothing & Leather Branch.

Wallace F. Sharot has been elected vice-president of C. H. Van Ingen & Co., New York.

Joseph L. Wright has been appointed superintendent of Republic Cotton Mills No. 1 and No. 2, Great Falls, S. C., succeeding his brother **George M.**

It will open . . . *of course!*

Because it has been folded properly. Because it has been made with care. Because it has been inspected with even greater care.

And because it has been stored in a special air conditioned room—with exact temperature and humidity control—to protect the silk fabric against mildew or other climatic damage.

Ordinary air conditioning . . . the kind of air conditioning you've known in the past . . . wouldn't do for a job like this. *More precise* . . . and *more flexible* equipment . . . the air conditioning of the future . . . had to be developed.

General Electric has been specializing in meeting the difficult air conditioning problems created by America's war effort. Air conditioning to preserve materials . . . to improve the operation of machinery . . . to make it easier for men to work better!

When final Victory is won, many valuable lessons learned in fighting the Battle of Production will be turned to the uses of peace.

More people will be able to enjoy air conditioning in homes, offices and other places . . . because it will be less expensive, more compact. And it will be vastly improved air conditioning . . . with accurate control of *humidity* as well as temperature. *Required climates* will be reproduced at will.

When the time comes to supply the air conditioning needs of the post-war world, General Electric will be ready. General Electric Co., Air Conditioning and Commercial Refrigeration Department, Bloomfield, N. J.

Air Conditioning by

GENERAL ELECTRIC

"INDEX" To Better Quality Textiles

FOR	Dyeing Flameproofing	USE SOLVAY AMMONIUM CHLORIDE
FOR	Dyeing	USE SOLVAY CAUSTIC POTASH
FOR	Dyeing Hypochlorite bleaching Kier boiling Mercerizing Neutralizing	USE SOLVAY CAUSTIC SODA
FOR	Hypochlorite bleaching Oriental rug finishing Water conditioning	USE SOLVAY LIQUID CHLORINE
FOR	Mothproofing	USE SOLVAY PARA-DICHLOROBENZENE
FOR	Dyeing Softening	USE SOLVAY POTASSIUM CARBONATE
FOR	Acid neutralizing Degumming Fulling Scouring Soap building Softening	USE SOLVAY SNOWFLAKE CRYSTALS
FOR	Acid neutralizing Fulling Hypochlorite bleaching Kier boiling Scouring Soap building Water conditioning	USE SOLVAY SODA ASH
FOR	Dyeing	USE SOLVAY SODIUM NITRITE
FOR	Acid neutralizing Degumming Fulling Scouring Soap building Softening	USE SOLVAY TEXTILE SODA

FOR TECHNICAL SERVICE In the Solvay Laboratories, textile men with years of experience study your problems and make recommendations on the basis of laboratory findings. *Solvay will be glad to send these textile specialists into your plant to study actual operating conditions and help adapt laboratory findings to specific plant conditions.* Write today to

SOLVAY SALES CORPORATION

Alkalies and Chemical Products Manufactured by The Solvay Process Company

40 Rector Street • New York, N. Y.

NEWS ABOUT MEN

Wright, Jr. who has entered the armed service.

Norman D. Randall, of Columbia Narrow Fabrics Co., Shannock, R. I., has been appointed chief of the elastic webbing unit in the Webbing and Braiding Section, Textile Branch, WPB, Washington.

Miss Frances Barry has become associated with the advertising and promotion department of Pacific Mills, New York, taking over the duties of **Miss Roberts,** recently resigned.

John C. Leatham, a vice-president of Southeastern Cottons, Inc., New York, resigned Aug. 15 to become associated with Woodward Baldwin & Co., New York. He is succeeded in charge of all print cloth sales at Southeastern by **Frank F. Mountcastle,** who is also a vice-president of that company.

Thomas E. Cole, vice-president of Lockport (N. Y.) Cotton Batting Co. has been elected president and treasurer to succeed the late Albert Rogers.

Georges Negroz, formerly of Paris, France, has been placed in charge of fabrics buying for sportswear and underwear products of the Real Silk Hosiery Mills, Indianapolis, Ind.

Ralph M. Jones, formerly vice-president and general superintendent of Utica, (N. Y.) Knitting Co., has been elected president of that firm succeeding the late O. W. Gridley.

Robert L. Frey has joined Tubize Chatillon Corp. as Pennsylvania representative with headquarters in Philadelphia.

Howard Bruce, of Baltimore, Md., has been appointed chief of the Standards and Conservation Branch of the Production Division, WPB.

J. B. Evans has been elected president of the Keystone Hosiery Manufacturers Association, Reading, Pa.

P. T. Wing is now superintendent of the second shift for the Hartford Spinning Mills, Unionville, Conn. He comes from Keene, N. H.

Floyd G. Clay, chief administrator of the Federal Government's hemp program in Kentucky and other areas where hemp can be grown, announces that a hemp-breaking plant program is planned for 1943, which will include the construction of about 80 hemp-breaking factories, which will represent a cost of $200,000 each. They will be erected in areas where at least 5,000 acres of hemp are grown.

Roy A. Palmer, merchandising manager for Duke Power Co., Charlotte, N. C., has been added to the fourth region civilian defense staff and will serve as a consultant on dim-out problems along the Atlantic coast.

Harry Schneider, a North Carolina Textile School graduate, lately with Heinemann & Seidman, New York, is now with the Aspinook Co., with headquarters in the New York Office.

J. J. Mills, formerly engineer for Saco-Lowell Shops, Boston, Mass., has become processing engineer in the development department of the textile division of U. S. Rubber Co., with headquarters at the Stark Mill, Hogansville, Ga.

George R. Kay, retiring general superintendent of Spindale (N. C.) Mills, Inc., was given a farewell party by overseers of the various departments of the mills. Mr. Kay has become superintendent of the Columbia (S. C.) division of Pacific Mills.

John T. Hilton, professor of yarn manufacture in the Textile School of North Carolina State College, Raleigh, N. C., is serving as textile consultant in the Quartermaster Corps in Washington, D. C., for the remainder of the summer.

L. E. Parsons, formerly with the rayon unit of E. I. du Pont de Nemours & Co., Old Hickory, Tenn., has been appointed acting head of the department of textile engineering at the Texas Technological College, Lubbock, Tex., in the absence of **Cash M. Stanley, Jr.,** who has been called into active duty with the armed forces.

J. B. Doar, Jr., has become secretary and treasurer of Exposition Cotton Mills, Atlanta, Ga.

R. Maurice Frew, formerly manager of the industrial relations department of Winnsboro (S. C.) Mills, unit of United States Rubber Co., has been put in charge of the employment office of the new shell-loading plant which the company will open around Oct. 1, near Pineville, N. C.

Hearne Swink, of Kannapolis, N. C., has become secretary and treasurer of the Wiscassett Mills Co., Albemarle, N. C.

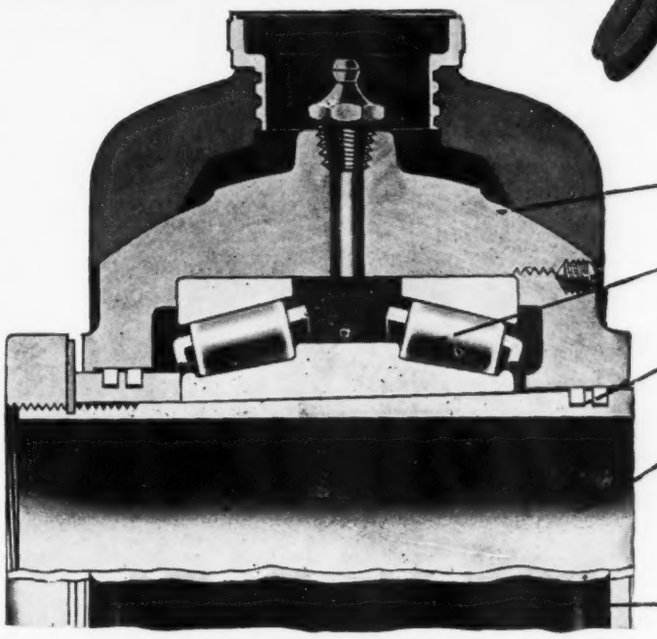
Elizabeth M. Jones, formerly with Singer Sewing Machine Co., has joined the Retail Division of the American Viscose Corp's. advertising department.

Julian Merrigold, formerly of Wilson Bros., Chicago, has become assistant to **A. S. Persky,** president of the Worcester Knitting Co., Worcester, Mass.

Wm. Pitts, formerly with Pepperell Mfg. Co., Opelika, Ala., has become overseer of

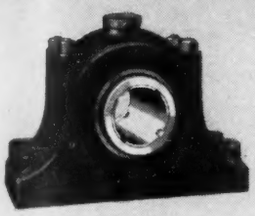
They Can Take a Beating *for Victory!*

HIGH SPEEDS
HEAVY DUTY
SHOCK LOADS



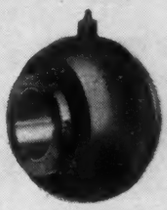
1. Full ball and socket self alignment.
2. Timken tapered roller bearings give full radial and thrust capacity.
3. All metal automotive type piston ring seals keep grease in and dirt out.
4. Long split adapter sleeve distributes load over entire length of bearing — reduces pressure per square inch on shaft and eliminates peening action which causes rapid wear.
5. Rugged, well proportioned outer housing.

DODGE-TIMKEN SPECIAL DUTY BEARINGS

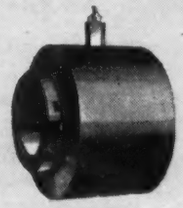


Dodge-Timken Special Duty Ball and Socket Pillow Blocks

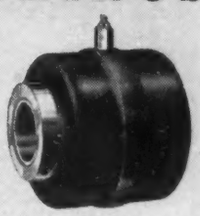
Dodge-Timken Special Duty "S 1" Pillow Blocks



Dodge-Timken Special Duty "D" Unit Mount



Dodge-Timken Special Duty "B 1" Unit Mount



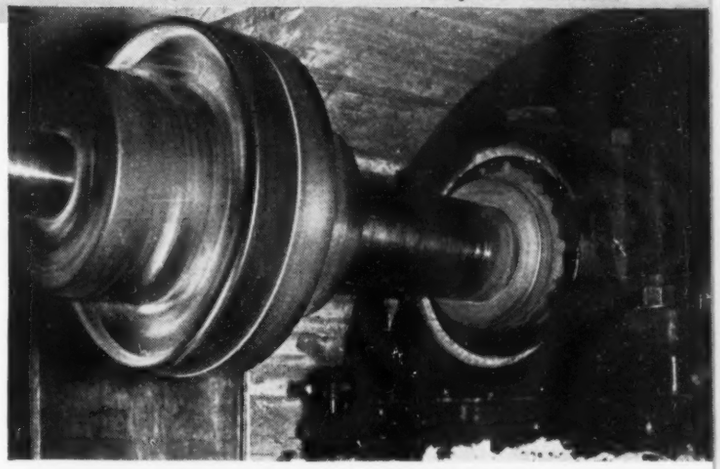
Dodge-Timken Special Duty "S 1" Unit Mount

DODGE-TIMKEN bearings can take the beatings handed out by today's 24-hour production on week-in and week-out schedules. They are designed to give a minimum of 30,000 hours of service under conditions for which they are adapted.

Available in a wide variety of sizes and types — Dodge bearings offer lubricating features that guard against possible neglect by "green" shop help. Indestructible steel seals prevent lubrication leakage — require only infrequent attention from oilers — protect production schedules.

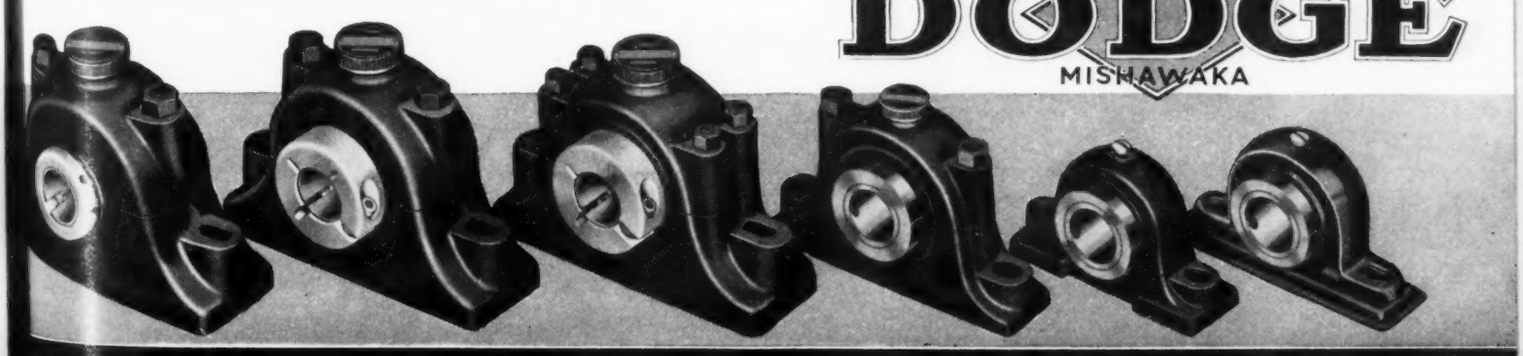
Put all your power into production with Dodge anti-friction bearings — insure unbroken operation with Dodge ruggedness and stamina. Dodge distributors, located in important industrial centers from coast to coast, are prepared to check over your power transmission equipment — help you in the application of the right bearing for the job. Call the one nearest you or write us direct today for Bulletin A 206 and Selection Tables.

DODGE MANUFACTURING CORPORATION
MISHAWAKA, INDIANA, U. S. A.



Dodge-Timken Special Duty Pillow Blocks help modernize power transmission and solve increased production problems in an important North Carolina textile mill.

DODGE
MISHAWAKA

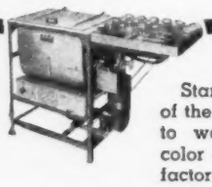


DODGE ROLLING BEARINGS . . . The 30,000 Hour Line

ATLAS-OMETERS

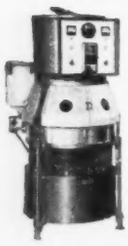
Accelerated Testing Equipment

- Reduce years of actual use to just a few day's testing.
- Required for testing in many Federal Specifications.
- Used in 36 countries—all over the world.
- Recognized by manufacturers and consumers alike for over a quarter-century.



LAUNDER-OMETER

Standard laboratory washing machine of the A. A. T. C. C.—measures resistance to washing action, shrinking, staining, color fastness to soaps and solvents. All factors carefully controlled—can be reproduced exactly at any time.



FADE-OMETER

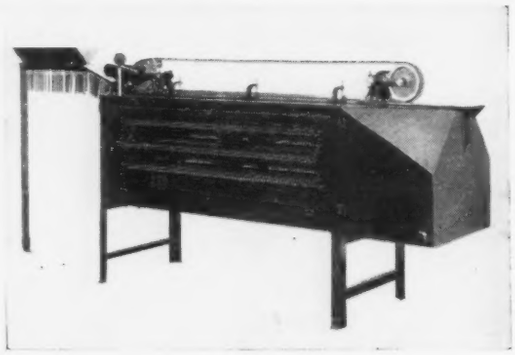
Rotates specimens around the Atlas Enclosed Violet Carbon Arc, the closest approach to natural sunlight. Temperature automatically controlled.

WEATHER-OMETER

Duplicates effect of actual exposure—months of sun, rain, heat and cold condensed to a few days.

ATLAS ELECTRIC DEVICES CO.
371 W. Superior St., Chicago, Illinois

ATLAS-OMETERS
LAUNDER-OMETER • FADE-OMETER • WEATHER-OMETER



THE TYPE L

LOOM BOBBIN STRIPPER

for

RAYON YARNS

The Terrell Machine Co., Inc.
CHARLOTTE, N. C.

James F. Notman, Needham, Mass. . . . . N. E. States
E. W. S. Jasper, Inc., Elizabeth, N. J., Penn., N. Y. and N. J.
W. J. Westaway Co., Ltd., Hamilton & Montreal . Canada
Geo. Thomas & Co., Manchester, Eng. . European Agent

NEWS ABOUT MEN

night spinning at the Catherine and Central unit of Avondale Mills, Sylacauga, Ala.

Waldemar Wallner, superintendent of Wallner Hosiery Mills, Virginia Maid Hosiery Mills, and Acme Hosiery Dye Works, Pulaski, Va., has been elected president of the three companies, succeeding his brother, the late Thomas J. Wallner.

Edwin G. Eyerly, manager of the tie fabric section of Stehli & Co., New York, has resigned. He has temporary office at 230 Park Ave.

Leonard K. Fitzgerald has become superintendent of Riverside Division of the Riverside & Dan River Cotton Mills, Danville, Va., succeeding **Harry T. Allen, Jr.,** who has become associated with Burlington Mills, Greensboro, N. C.

A. L. Fisher, overseer of carding at Consolidated Textile Corp., Lynchburg, Va., has retired.

Lee Crowder has been promoted to overseer of carding at Spindale, N. C., unit of Spindale Mills.

Harry W. Noyes, formerly of Asheville, N. C., has accepted the position of cost accountant for Oconee Mills, Westminster, S. C.

W. C. Hyder has been appointed night superintendent of the No. 1 and No. 3 units of Cowikee Mill, Eufaula, Ala. He was formerly overseer of weaving at unit No. 1.

Bloise Zeigler, assistant to the overseer of spooling, warping and winding at Avondale Mills, Sylacauga, Ala., has resigned to accept a position as chemical plant foreman at Huntsville Arsenal, Ala.

W. G. Armstrong, overseer of carding and spinning at the Vaucluse, S. C., unit of Graniteville Mfg. Co., has resigned to accept a similar position with the Manetta Mills, Lando, S. C.

Claude D. Turner, formerly of Fort Mill, S. C., has become overseer of weaving at the Pacific Mills, Columbia, S. C.

Claude E. Morris has been appointed superintendent of the Palmetto (Ga.) Cotton Mills succeeding **W. R. Thomson,** who has resigned after 30 years.

W. L. Clements, formerly superintendent of Laurens (S. C.) Cotton Mills, has become assistant superintendent of Riverside & Dan River Cotton Mills, Danville, Va.

B. E. Blackwell has been appointed overseer of spinning at Cannon Mills, No. 5 unit, Concord, N. C., succeeding **H. B. Clyburn, Jr.,** who recently resigned.

O. S. Shelton, formerly with C. L. Upchurch & Sons, Inc., Atlanta, Ga., has become superintendent of G. & B. Yarn Mill, Cottondale, Ala.

John H. Cranford, formerly with Clinton (S. C.) Mills, has accepted position of assistant overseer of carding at the Springstein plant of Springs Cotton Mills, Chester, S. C.

Johnson McCorkle is now superintendent of Harmony Grove Mills, Commerce, Ga.

J. E. Farrow, who was graduated from the textile department of Alabama Polytechnic Institute, Auburn, Ala., is now acting superintendent of the bleachery at Russell Mfg. Co., Alexander City, Ala.

Wm. Pitts, formerly with Pepperell Mfg. Co., Opelika, Ala., is now overseer of night spinning at Central and Catherine units of Avondale Mills, Sylacauga, Ala.

G. H. Mahaffee, overseer of carding of the Spindale, N. C., unit of Spindale Mills, has been promoted to superintendent of the carding and spinning departments of the Cleghorn unit and superintendent of the carding department at Spindale.

W. B. McGinnis has accepted the position of superintendent of Winfield, Ala., unit of Alabama Mills, Inc.

S. P. Jenkins has become superintendent of the yarn plant of Jordan Mills, Columbus, Ga.

J. E. Ledbetter has become superintendent of Villa Rica, (Ga.) Mills.

O. M. Templeton has resigned his position with Joanna Textile Mills, Goldville, S. C., and has become overseer of carding at Consolidated Textile Corp., Lynchburg, Va.

Jack Fletcher has resigned his position with Cannon Mills Co., China Grove, N. C., unit, and has accepted the position of overseer of spinning at Gem Yarn Mill, Cornelius, N. C.

W. P. Johnson has relinquished his duties as manager of the Thrift unit of the Kendall Co., Paw Creek, N. C., and has become an executive of Inman (S. C.) Mills.

Charles A. Rudolph, Jr., Gainesville, Ga., formerly overseer of weaving at Chicopee Mfg. Co., of Georgia, Gainesville, and who became technician at the Sao Paula, Brazil, unit of Johnson & Johnson, operators of the Chicopee company, and left for his new post in South America in February, 1941, has been promoted to general superintendent of the Brazilian plant.

Wiley Hunnicutt has become superintendent of Acworth (Ga.) Mills.

Send "Textile World" for three years for $3 ☐

☐ I will pay when you bill me. ☐ I enclose remittance.

CHECK HERE IF YOU PREFER ☐ 2 YEARS FOR $2 OR ☐ 1 YEAR FOR $1.50.

Name_____ Position_____

Home Address_____

City_____ State_____

Company_____ Products_____

*Above rates are for U. S., Mexico, Central and South America. Canada: $2.00 for ☐ 1 year . . . $3 for ☐ 2 years . . . $4 for ☐ 3 years (payable in Canadian or U. S. funds). Elsewhere: $2 for ☐ 1 year . . . $3 for ☐ 2 years . . . $4.50 for ☐ 3 years. T-9-42

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☐ I will pay when you bill me. ☐ I enclose remittance.

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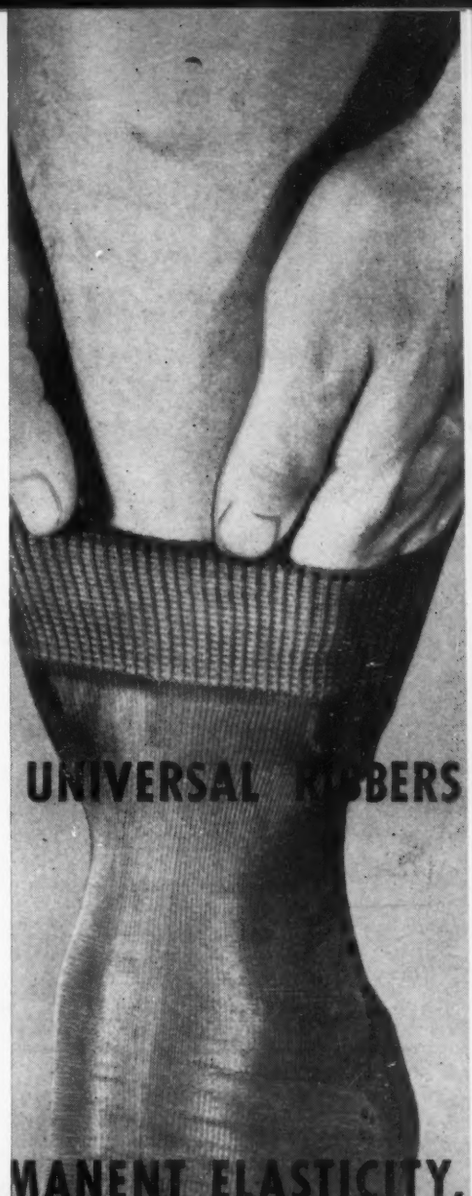
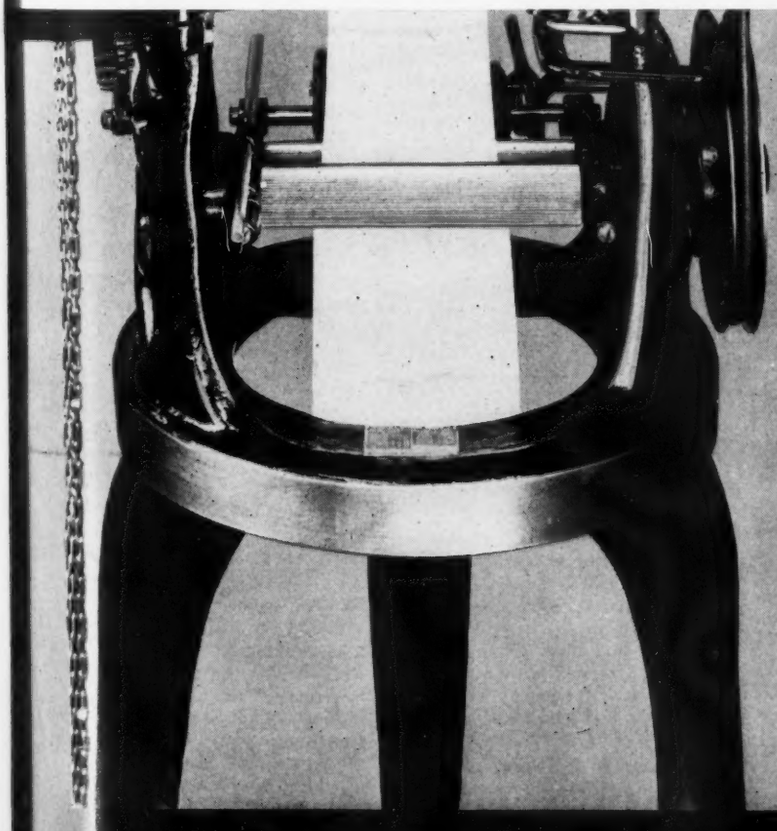


UNIVERSAL RIBBERS

MANENT ELASTICITY,

SNUG FIT IN HOSIERY TOPS



Here is the machine that puts permanent elasticity and snug fit into hosiery tops—and does it at minimum expense. Every part and every motion of the FIDELITY Universal Ribber reduces cost. The dogless has no vibrating parts—repairs and delays are avoided. Free vertical movement of dial makes "picking up" easy.

To inspect an entire section of the dial, simply loosen one thumb screw. A loose course plate that reduces needle breakage. Heads are interchangeable without new dogless parts. Take-up gears entirely enclosed prevent oil spots and seconds. One-piece frame increases rigidity. The FIDELITY Universal Ribber operates with less noise, less vibration and less attention.

Write for detailed information and data.

FIDELITY MACHINE COMPANY

3908-18 Frankford Ave., Philadelphia, Pa.

THE FIDELITY UNIVERSAL RIBBER

Postage Will be Paid by McGraw-Hill Pub. Co.

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First Class Permit No. 64 (Sec. 510, P. L. & R.) New York, N. Y.

TEXTILE WORLD
McGRAW-HILL PUBLISHING CO.
330 WEST 42nd STREET
NEW YORK, N. Y

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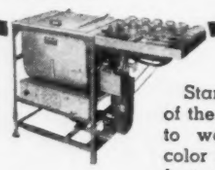
- Reduce years of actual use to just a few day's testing.
- Required for testing in many Federal Specifications.



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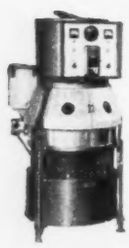

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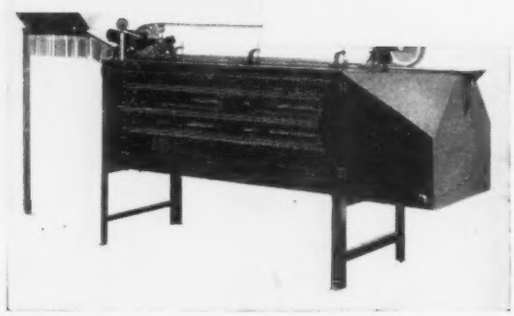

THE TYPE L

LOOM BOBBIN STRIPPER

for

RAYON YARNS

The **Terrell Machine Co.,** *Inc.*
CHARLOTTE, N. C.

James F. Notman, Needham, Mass. . . . . N. E. States
E. W. S. Jasper, Inc., Elizabeth, N. J., Penn., N. Y. and N. J.
W. J. Westaway Co., Ltd., Hamilton & Montreal . Canada
Geo. Thomas & Co., Manchester, Eng. . European Agent

Bloise Zeigler, assistant to the overseer of spooling, warping and winding at Avondale Mills, Sylacauga, Ala., has resigned to accept a position as chemical plant foreman at Huntsville Arsenal, Ala.

W. G. Armstrong, overseer of carding and spinning at the Vaucluse, S. C., unit of Graniteville Mfg. Co., has resigned to accept a similar position with the Manetta Mills, Lando, S. C.

Claude D. Turner, formerly of Fort Mill, S. C., has become overseer of weaving at the Pacific Mills, Columbia, S. C.

Claude E. Morris has been appointed superintendent of the Palmetto (Ga.) Cotton Mills succeeding **W. R. Thomson,** who has resigned after 30 years.

W. L. Clements, formerly superintendent of Laurens (S. C.) Cotton Mills, has become assistant superintendent of Riverside & Dan River Cotton Mills, Danville, Va.

B. E. Blackwell has been appointed overseer of spinning at Cannon Mills, No. 5 unit, Concord, N. C., succeeding **H. B. Clyburn, Jr.,** who recently resigned.

(Ga.) Mills.

O. M. Templeton has resigned his position with Joanna Textile Mills, Goldville, S. C., and has become overseer of carding at Consolidated Textile Corp., Lynchburg, Va.

Jack Fletcher has resigned his position with Cannon Mills Co., China Grove, N. C., unit, and has accepted the position of overseer of spinning at Gem Yarn Mill, Cornelius, N. C.

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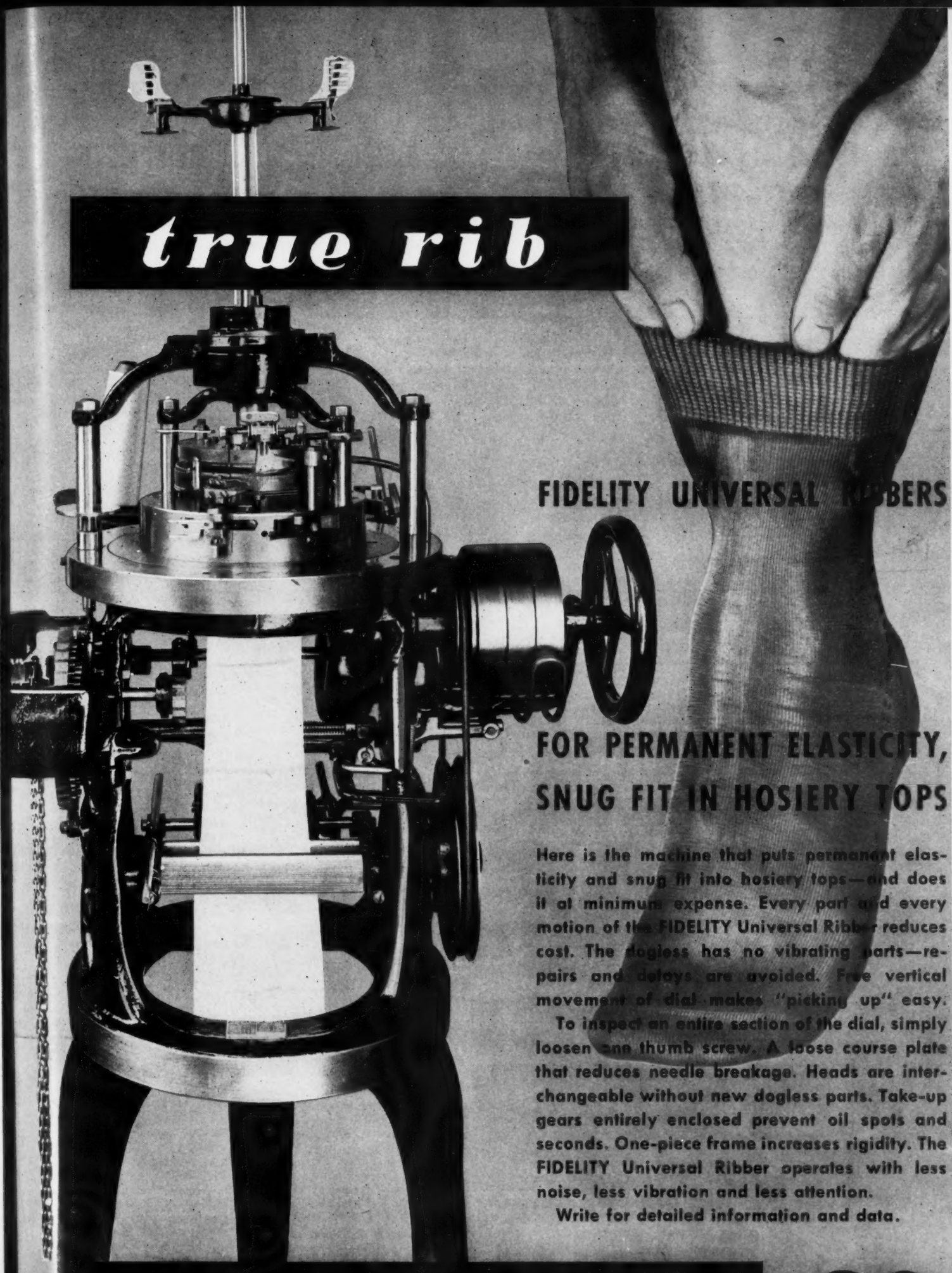

true rib

FIDELITY UNIVERSAL RIBBERS

FOR PERMANENT ELASTICITY, SNUG FIT IN HOSIERY TOPS

Here is the machine that puts permanent elasticity and snug fit into hosiery tops—and does it at minimum expense. Every part and every motion of the FIDELITY Universal Ribber reduces cost. The dogless has no vibrating parts—repairs and delays are avoided. Free vertical movement of dial makes "picking up" easy.

To inspect an entire section of the dial, simply loosen one thumb screw. A loose course plate that reduces needle breakage. Heads are interchangeable without new dogless parts. Take-up gears entirely enclosed prevent oil spots and seconds. One-piece frame increases rigidity. The FIDELITY Universal Ribber operates with less noise, less vibration and less attention.

Write for detailed information and data.

FIDELITY MACHINE COMPANY
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THE FIDELITY UNIVERSAL RIBBER

BY THE MAKERS OF JOHNSON'S WAX
. . . A WATER REPELLENT
TEXTILE FINISH

Formula 1860

Johnson's Water Repellent Textile Finish (Formula 1860) is a stable, aqueous emulsion of waxes and non-critical aluminum salts and emulsifying agents. Its use insures high spray and hydrostatic pressure tests. (It is also supplied with copper salts for mildewproofing if desired.) Formula 1860 does not change the color or "hand" of textiles. Nonflammable. May be used on vat or sulphur-dyed textiles. No objectionable odor. Acidity does not need regulation. Inexpensive to use. Supplied to meet Army Quartermaster Department specifications.

For free test sample and full information, write

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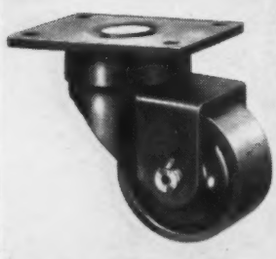
DARNELL CASTERS
& E-Z ROLL WHEELS
A SAVING AT EVERY TURN



For light, medium or heavy duty service Darnell Casters and Wheels are dependable—saving floors, equipment, money, time and temper.
FREE Manual FOR THE Asking

DARNELL CORP. LTD., 60 WALKER ST., NEW YORK, N.Y.
LONG BEACH, CALIFORNIA, 36 N. CLINTON, CHICAGO, ILL.

Textile Men in Armed Services

Julian H. Robertson, president-treasurer of North Carolina Finishing Co. and also head of Erlanger Mills, Lexington, and Alexander Mfg. Co., Forest City, has been commissioned a major in the ordnance department of the army. He reported for duty on Aug. 11 at Aberdeen, Md. Mr. Robertson served as a first lieutenant in the first World War.

James C. Self, Jr., Greenwood, S. C., before entering the service of his country, assistant secretary of the Greenwood and Ninety-Six Cotton Mills and assistant treasurer of the Mathews Cotton Mill, is now a lieutenant in the 54th Coast Artillery, Battery A, at San Luis Obispo, Calif.

Everett R. Cook, head of Cook & Co., Inc., Memphis, Tenn., former president of the Memphis Cotton Exchange, and prominent in the affairs of the National Cotton Council and the American Cotton Shippers' Association, and vice-president of the Commodity Credit Corp., in charge of foreign agricultural purchases, has resigned from the latter position as he has received a commission as Lieutenant-Colonel in the Army Air force and reported for duty at Bolling Field, Washington, D. C., Sept. 1.

Lieut. K. J. Kidde, formerly of American Woolen Co., New York, who received his commission in the Marine Corps last June after enlisting as a private in October, 1940, was mentioned prominently in dispatches regarding American activity at Guadalcanal in the Solomon Islands.

Stanley Whiteway, advertising manager of Proctor & Schwartz, Philadelphia, Pa., industrial drying and textile machinery, has enlisted in Signal Corps Reserve of the Army. On completion of special instruction in radio communications he will go on active duty during leave of absence from Proctor & Schwartz.

F. N. Spoerl, formerly of the New England office of H. W. Butterworth & Sons Co., Philadelphia, has been advanced to the rank of lieutenant colonel in U. S. Army Signal Corps. Lt. Col. Spoerl, who was called to active duty in January, 1941, is stationed at Fort Monmouth, N. J.

Robert L. Cole, president and treasurer of the Hannah Pickett Mills, Rockingham, N. C., has been appointed a first lieutenant in the U. S. Navy.

SIDNEY S. KORZENIK, executive secretary and counsel of National Knitted Outerwear Association, who has taken a leave of absence to join the Army as a lieutenant. Harold Korzenik has been designated as acting counsel in his brother's absence, and E. A. Brandwein has been named acting secretary.

S. Norman Perry, for over 30 years a fabric sales agent in Philadelphia, has been commissioned captain in QM and is stationed at the Philadelphia QM Depot.

John L. Masterson, head of the gray goods department of Galey & Lord, New York, has been commissioned lieutenant, senior grade, in the Navy. **O. B. Lord** will take over his duties for the duration.

David Hand of John Hand & Sons, Paterson, N. J., is now lieutenant in Army Air Corps.

Frank L. Dwyer, department manager of sales and production, of American Fabrics Corp., Bridgeport, Conn., has been commissioned lieutenant, senior grade, in the Navy.

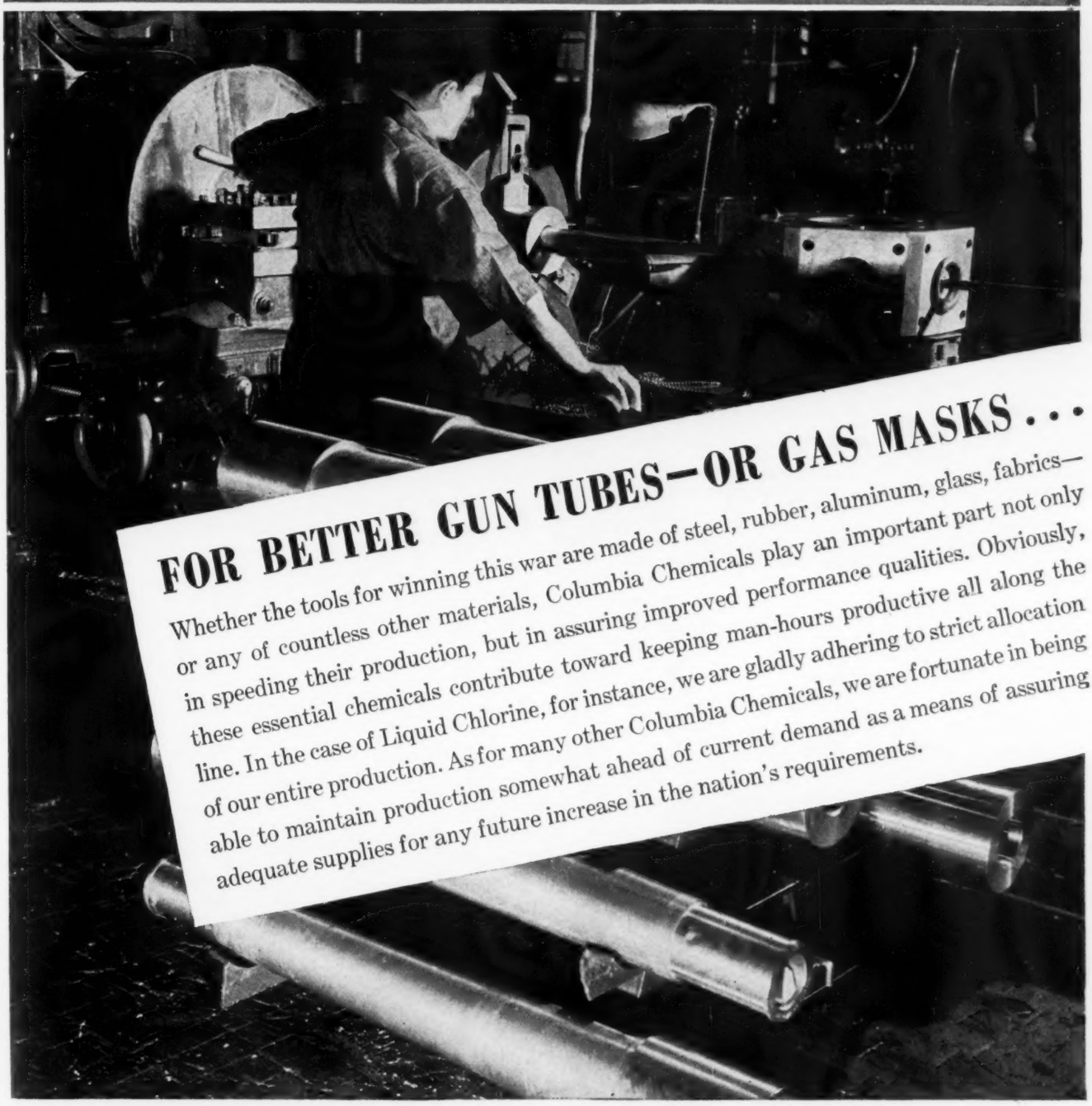
Edward S. Tennent, purchasing agent for 10 cotton mills in vicinity of Spartanburg, S. C., has been called for duty in the Army with rank of lieutenant.

Louis Bachmann, Jr., of L. Bachmann & Co., New York, has been commissioned second lieutenant in Marine Corps Reserves.

Col. Vere Painter, has been made executive officer of the Philadelphia QM Depot. He is succeeded as officer in charge of inspection section of the procurement division by his former assistant, **Lt. Col. Harold M. Manderbach.**

Nat H. Aronsohn, of N. H.

COLUMBIA CHEMICALS



FOR BETTER GUN TUBES—OR GAS MASKS . . .

Whether the tools for winning this war are made of steel, rubber, aluminum, glass, fabrics—or any of countless other materials, Columbia Chemicals play an important part not only in speeding their production, but in assuring improved performance qualities. Obviously, these essential chemicals contribute toward keeping man-hours productive all along the line. In the case of Liquid Chlorine, for instance, we are gladly adhering to strict allocation of our entire production. As for many other Columbia Chemicals, we are fortunate in being able to maintain production somewhat ahead of current demand as a means of assuring adequate supplies for any future increase in the nation's requirements.

ESSENTIAL INDUSTRIAL CHEMICALS

SODA ASH • CAUSTIC SODA • SODIUM BICARBONATE • LIQUID CHLORINE • SILENE* CALCIUM CHLORIDE • SODA BRIQUETTES MODIFIED SODAS • CAUSTIC ASH • PHOSFLAKE CALCENE** • CALCIUM HYPOCHLORITE

*Precipitated Calcium Silicate **Precipitated Calcium Carbonate

COLUMBIA CHEMICALS

PITTSBURGH PLATE GLASS COMPANY

COLUMBIA CHEMICAL DIVISION

GRANT BUILDING, PITTSBURGH, PA.

CHICAGO • BOSTON • ST. LOUIS • NEW YORK • CINCINNATI

CLEVELAND • MINNEAPOLIS • PHILADELPHIA • CHARLOTTE

RED-RAY MANUFACTURING CO.

Manufacturers of Infra-Red Ray Combustion Equipment

455 WEST 45th STREET NEW YORK, N. Y.

SHAMROCK

***Canvas* Baskets, Trucks**

Speed-up production—Keep 'em rolling

Ask your Jobber TODAY! **MEESE, INC. Madison, Ind.**

NEWS ABOUT MEN

Aronsohn Co., New York, has been called to active duty as captain in Army Air Corps.

Capt. William G. Ashmore, QMC, U. S. Army, who has been stationed in Washington for more than a year, has gone overseas. Capt. Ashmore, in peace-time, is southern editor of TEXTILE WORLD.

Ensign Gordon B. M. Walker, U. S. Navy, has completed the training course on U. S. S. Prairie Sate, New York, and is temporarily located in Penn State College, taking further courses. Mr. Walker is a southern editor of TEXTILE WORLD on leave.

H. F. Williams, superintendent of Piedmont Plush Mills, Greenville, S. C., is now in the Army having been commissioned first lieutenant. Sidney Bruce, Camperdown Co., Greenville, is acting as part-time superintendent.

Don P. Johnston, Jr., formerly manager of Vamoco Mills, Wake Forest, N. C., is now a lieutenant in the armored tank forces of the army, at Fort Benning, Ga.

Adolph Blum, general manager of Albany (Ga.) Mfg. Co., hosiery manufacturers, has enlisted in the U. S. Army Engineering Corps, at Fort Leonard Wood, Mo.

Arthur C. McCall, Greenville, S. C., a partner of Alester G. Furman Co., dealers in southern mill stocks, Greenville, who volunteered in the Marines, has been appointed first lieutenant in Marine Corps Reserve, and reported for duty Aug. 13.

Ellis Royal, Charlotte, N. C., associate editor of the *Textile Bulletin* and of the *Southern Knitter*, who recently resigned as secretary and treasurer of the Southern Textile Association and the Arkwrights, has been commissioned a first lieutenant in the Air Force.

David H. Colitz, production and traffic manager of Rock Hill (S. C.) Printing & Finishing Co., has been commissioned a second lieutenant in the army. He reported for duty Aug. 6.

BRIG. GEN. ALLEN R. KIMBALL, in command of Jeffersonville (Ind.) QM. Depot, recently promoted from colonel.

Hall B. Mebanes vice-president and a director of Standard Knitting Mills, Knoxville, Tenn., has been appointed first lieutenant in the Army Engineers Amphibian Command.

Dan A. Torrence, Jr., Chattanooga, Tenn., who has been associated with the Ciba Co., and who was secretary of the South Central Section of the American Association of Textile Chemists and Colorists, is a lieutenant in the Army.

J. Worth Gamel, assistant professor of textile engineering at the Texas Technological College, Lubbock, Tex., has been accepted for Class V-7 Naval Reserve.

C. E. Ware, Jr., formerly paymaster at Abernathy Yarn Mills, Statesville, N. C., and son of Charles E. Ware, superintendent of the same mills, has received his wings in the U. S. Air Corps, Phoenix, Ariz.

Gerald L. Chapman, superintendent of the Barbara Mills, Salisbury, N. C., has reported for duty in the U. S. Army.

Obituary

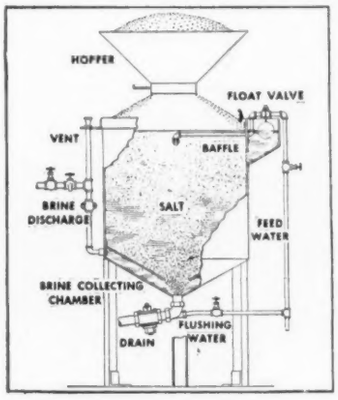
Thomas J. Wallner, 52, president of Virginia Maid Hosiery Mills, Pulaski, Va., died Aug. 18. He was active in the hosiery industry for more than 35 years, beginning his textile career in New Bedford, Mass., with the Cornell Stocking Co. and later affiliated with the Hemphill Co., Central Falls, R. I. He was employed by Phoenix Hosiery Co., Milwaukee, Wis., and later with the A. V. Victorious chain of hosiery mills as manager of their enterprises. The latter connection took him to Virginia in 1916, as manager of the Paul Hosiery Mills, the first seamless hosiery mill to operate in Southwestern Virginia. A few years later he established the Virginia Maid Hosiery Mills and later the Acme Dye Works and the Jefferson Mills. He became associated with the Burlington (S. C.) Mills, and, in co-operation with the company, organized a number of hosiery mills in this section. When he sold his interests in this enterprise he retained only the Carroll

WANT TO SAVE MONEY Every Time You Regenerate Your Zeolite Water Softener?

HOW OFTEN do you have to regenerate your Zeolite equipment? Two or three times a day . . . a minimum of twice a week? Whatever the figure . . . the salt tonnage required accounts for a sizeable item in your overhead. Yet to effect substantial savings in this item, you have only to investigate the advantages of the Lixate Process for making *crystal clear, fully saturated* brine. From the cost angle alone, the Lixate Process proves a profitable investment. It utilizes inexpensive Sterling Rock Salt . . . requires 10% to 20% *less* salt . . . cuts labor costs. Production-wise, Lixate Brine proves infinitely superior to ordinary brine for Zeolite regeneration . . . and further, it will increase the efficiency of your dyeing.

IMPROVED ZEOLITE REGENERATION . . . Lixate Brine is ideal because it is crystal clear, fully saturated and free from insolubles. Produced automatically, it is always the proper strength, above minimum of 23° Baume, as recommended by Zeolite Water Softener manufacturers. In action, the Lixate Brine restores the original efficiency of the Zeolite by removing and carrying away the calcium and magnesium.

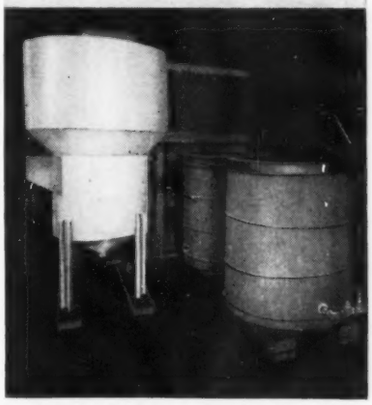
LEVEL DYEING WITH LIXATE BRINE . . . In contrast to "dry" salt processes which often produce imperfectly dyed cloth . . . Lixate Brine is *always* fully saturated and of controlled density. It immediately disperses evenly throughout the vat . . . eliminating spotting, streaking and white edges in the dyeing.



HOW THE LIXATE PROCESS WORKS. International's inexpensive Sterling Rock Salt flows by gravity from the hopper into the Lixator. Water enters through the nozzle at top, dissolves the salt without agitation, becomes fully saturated brine. This brine is self-filtered and then rises, crystal clear, in collecting chamber to discharge pipe. Repeated tests have shown that Lixate Brine is as chemically pure as brine made by mixing water with salt that is 99.63% pure!

4-WAY PRODUCTION SAVINGS!

1. **No labor cost for mixing brine.**
2. **Users report 10% to 20% savings in amount of salt required.**
3. **Lower cost for handling salt.**
4. **Lower cost for distributing brine instead of dry salt throughout plant.**

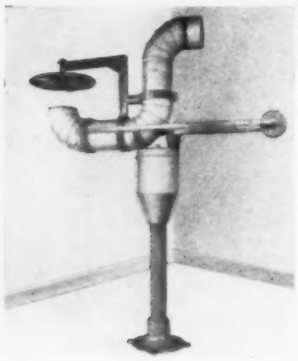


A typical Lixator installation for Textile and Dyeing Plants

FREE CONSULTATION! *Would you like the complete details—facts and figures—on what a properly installed Lixator can do for your mill? An International Field Engineer will be glad to call at your convenience.*

The **LIXATE** *Process*
Reg. U. S. Pat. Off.
for making brine

INTERNATIONAL SALT COMPANY, INC., DEPT. T-9, SCRANTON, PENNSYLVANIA



Truslow Blender

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For Superior SPUN RAYON and WOOL BLENDING

New requirements for blending staple rayon fibres and other synthetics with wool give new emphasis to the Truslow Blender.

The stock is blown through piping to the Blender. It then passes through a rotating arm and is blown up against the vanes of the canopy—making it revolve and distribute the stock in the form of a heavy snowstorm.

If you are working with mixtures of rayon or other fibres, we suggest that you investigate the Truslow Blender. It will help you to get thorough blending of either natural or synthetic fibres.

Write us about your problem.

★ ★ ★ ★ **Curtis & Marble** MACHINE COMPANY WORCESTER, MASSACHUSETTS. ★ ★ ★ ★

DRUMMOND SOAP

ARMY
NAVY
MARINES
AIR FORCE
COAST GUARD

All the qualities you look for in a fine Textile Soap. . . . A high-body product of low alkali content. . . . No filler of any kind. . . . A high binding quality that results in minimum flocking. . . . Saves on steam and water because it rinses easily and completely. . . . Better fulling and scouring. . . . Leaves fabric perfectly clean with softest fuel, better hand, brighter colors and whiter whites. . . . Want to try it? Just write us today for a free working sample and test Drummond Soap on your own goods.

OTHER HIGH GRADE "STANDARD" PRODUCTS
Stanso Palm Oil Curd Soap, Etc.

Standard Soap co. of camden

Charlotte, N. C. CATO M. LITTLETON 426 PARK TERRACE • 205 South 2nd. St. Camden, N. J. • Woonsocket, R. I. G. TANGUAY 281 HARRIS AVE.

NEWS ABOUT MEN

Silk Hosiery Mills, Hillsville, Va., but disposed of that plant some months ago. He was president of the Southern States Industrial Council.

Louis N. D. Williams, 82, pioneer in the development of knitting machines and one of the founders of Scott & Williams, Laconia, N. H., died at his home in Philadelphia, Pa., Aug. 31. He was born in Leicestershire, England. Scott & Williams was a Philadelphia firm until 1910 when it removed to Laconia. Mr. Williams remained in Philadelphia, and later became inactive though occasionally inventing improvements to knitting machinery.

J. Clifford Woodhull, from 1899 to 1913 selling agent for the American Woolen Co., New York, and an outstanding figure in the wool goods trade of that period, died recently at his home in Summit, N. J. He left the textile industry some time ago and retired in 1927.

Martin L. Griffin, 83, retired consulting chemist, died in Taunton, Mass., on Aug. 28. He was a pioneer chemist in the pulp and paper industry, and in 1919 became chief chemist for Mount Hope Finishing Co., North Dighton, Mass.

F. G. Sherrill, 71, president of the Gem Yarn Mills, Cornelius, N. C., died recently in a Statesville, N. C., hospital.

Joseph Golding, 70, president of Southbridge (Mass.) Finishing Co., president of the Sturbridge (Mass.) Spinning Co., and president of Golding Bros., New York, died Aug. 18.

Forrest C. Handy, Philadelphia representative for the Hampton Co., Easthampton, Mass., for 50 years, died in Philadelphia early last month.

William E. Tansey, superintendent of the Mico Textile Co., Warren, R. I., died Aug. 14.

Walter J. Wixson, 63, treasurer of Sterling Ring Traveler Co., Fall River, Mass., died Aug. 13. He was affiliated with his company 40 years and was prominent in fraternal circles.

Ed Morgan, of the Morgan Dyeing & Bleaching Co., Rochelle, Ill., died recently.

Edward S. Burkhart, 65, owner and president of the Troy (N. Y.) Yarn Co. which he founded in 1917, died Aug. 17.

James Henshall, 75, retired buyer of raw silks of Paterson, N. J., died recently. He had been a member of the firm of Henshall Bros. Silk Finishing Co. and Thomas Henshall Silk Finishing Co.

Clayton K. Gotwals, 53, treasurer of Granite Hosiery Mills, Souderton, Pa., died in Philadelphia recently.

Nelson R. Davis, 65, once president of the Haskell Silk Mills, Westbrook, Me., is dead. He was a retired superintendent of the S. D. Warren Paper Co. and a past president of the influential American Pulp & Paper Mill Superintendents' Association.

George A. Bigelow, president of Hopeville Mfg. Co., Worcester, Mass., died at his home in Leicester on Aug. 23.

Charles R. Main, 57, former treasurer of the consulting engineering house of Chas. T. Main, Inc., Boston, Mass., died at Winchester, Mass., Aug 22. He was born in Lawrence, Mass., and was educated at M. I. T. Most of his life was spent in the organization founded by his father, Charles T. Main, who is chairman of the board. He was president of the Boston Society of Civil Engineers.

Gibbons Glover Slaughter, Charlotte, N. C., formerly purchasing agent for a group of textile mills in Greenville, S. C., and more recently a textile machinery manufacturers' agent, with headquarters in Charlotte, died July 15.

Joseph P. Morin, 82, who retired in 1934 after serving for many years as treasurer and general manager of the Belknap Mills Corp., Laconia, N. H., died Aug. 17.

Joseph Alfred Moretz, 62, secretary-treasurer and general manager of Carolina Mills, Inc., Maiden and Newton, N. C., died Aug. 19.

Charles L. Meyer, mechanical and sales engineer for L. J. Wing Mfg. Co., New York, in the metropolitan district, New York State, Connecticut and New Jersey, for the past 18 years, died recently at his home in Hollis, L. I.

Thomas S. Grasselli, 67, a member of Cleveland's famous chemical family, died Aug. 21 at Cleveland, Ohio. He was with Grasselli Chemical Co. when it became part of the Du Pont company. He was vice-president and a director of E. I. du Pont de Nemours & Co. until retired from active business in 1939.

William A. Camp, Jr., 25, industrial engineer at Scott & Williams, Inc., Laconia, N. H., is dead. He was a native of Hartford, Conn.

Lewis M. Brightman, 73, sales manager of the Grinnell Co., Providence, R. I., died at Cranston, Rhode Island, on August 8.

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Dry-ice test shows the flexibility of Ethyl Cellulose—even a piece of tubing bends without shattering at 70° below zero.

This fabric coating for para-ski suits, stratosphere suits, raincoats, gas masks, decontamination bags, etc., meets maximum low-temperature specifications.

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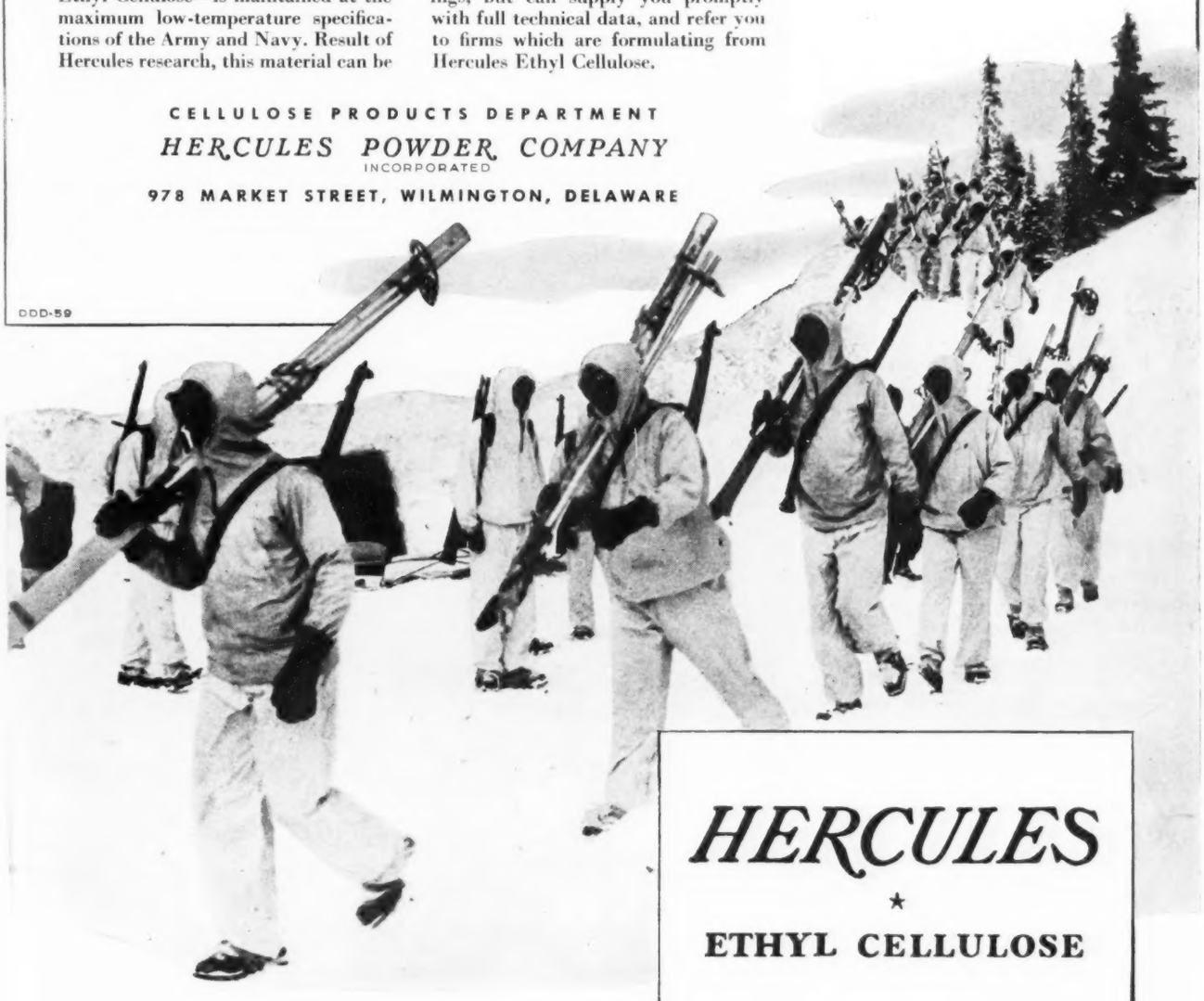

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TEXTILE MILL NEWS

Cotton Mill News

Allegany Textile Mills, Port Allegany, Pa., plan rebuilding of portion of mill recently damaged by fire, with loss reported close to $17,000, including equipment.

Aragon (Ga.) **Mills,** unit of A. D. Juillard & Co., now have under construction 60 new homes for the operatives.

Bibb Mfg. Co., Porterdale, Ga., is now running nearly 100% on war orders for Government at its mills at Porterdale, Macon and Columbus, Ga., giving employment to about 6500 operatives at these plants.

California Fabric Co. is the firm name under which Harry H. Schwartz has obtained a certificate to conduct business at 752 South Los Angeles street, Los Angeles, Calif.

Chiquola Mfg. Co., Honea Path, S. C., was damaged to the extent of $20,000 July 22, when struck by high winds followed by an electrical storm. The damage was mostly to the spinning department on the fourth floor.

Crystal Springs Bleachery, Inc., Chickamauga, Ga., is now occupying new buildings at mill, recently completed, including a one-story and basement weave shed, 135 x 150 ft., additions to opener and shipping divisions, and extensions in other departments. About 5000 additional spindles are now available. Additions have been made to working force.

Dixie Cotton Mills, La Grange, Ga., are completing a number of extensions and improvements in mill, including opener room, storage department and other divisions. Equipment is being installed in new two-story addition, recently completed, comprising about 20 new Saco-Lowell cards, pickers and other equipment.

Dora Yarn Mill, Cherryville, N. C., has work in progress on new one-story addition, to be used as a picker room. Cost reported close to $20,000, with equipment.

Dover Mill Co., Shelby, N. C., has begun erection of two-story addition, about 50 x 150 ft., to be used for warehouse. Cost reported close to $21,000.

Holliston Mills, Inc., Norwood, Mass., will soon have one-story, 40 x 85 ft. addition ready for occupancy. Plans are by Harry J. Korslund. John M. Lindbloom, Norwood, is doing the carpentry work, and John M. Mutch has the masonry contract.

Martel Mills Corp., Mercury Mill, Charlotte, N. C., purchased recently by R. Horace Johnston and Associates, is installing new equipment.

Mill Art Co., Spindale, N. C., recently organized, has begun operations in new local mill for the manufacture of canvas specialties for backgrounds for embroidery. Eight looms have been installed, secured from local Stonecutter Mills, which have discontinued such line of production.

Charles Niedner's Sons Co., Malden, Mass., linen yarns, has begun one-story addition, for which general contract recently was let to Alfred L. Jacobson, Inc., Malden. Cost reported about $30,000, with equipment. C. F. Springall, 50 Park St., Boston, is architect.

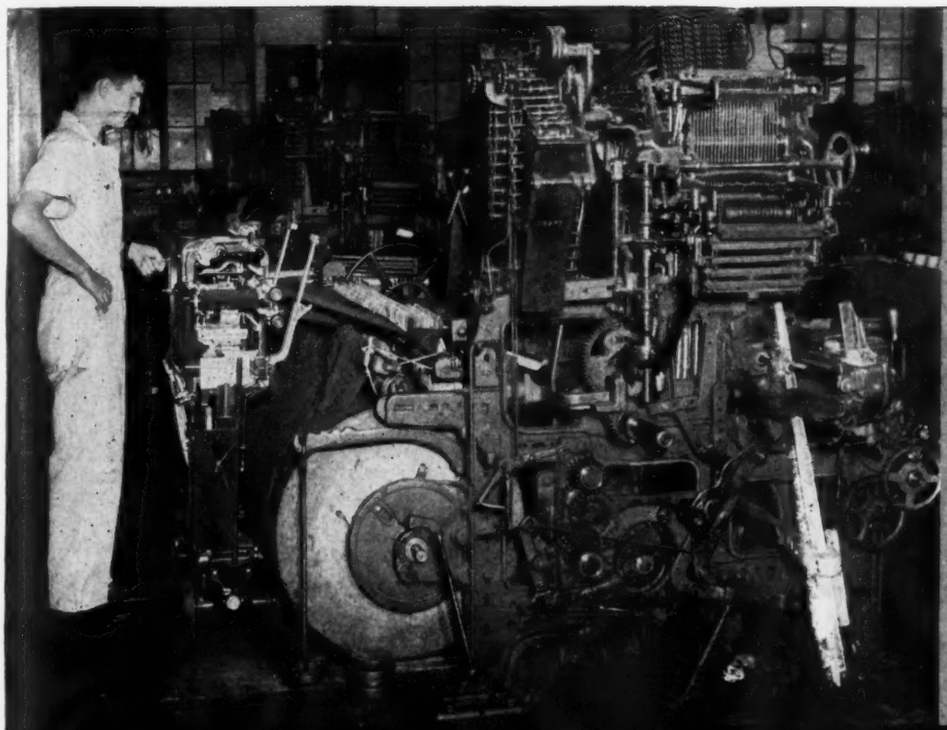
Oswego, N. Y.—Former local plant of Oswego Yarn Mills, more recently occupied by Capitol Silk Co., has been placed on the market by the city, which now holds title to property.

Pacific Mills reports net profit after taxes, etc., for first six months of 1942 of $886,034 compared with $1,044,950 for first half of 1941.

Palmetto (Ga.) **Mills** have completed an addition to house five spinning frames and one twister. One folder and a Curtis & Marble shearing machine will also be installed.

Powdrell & Alexander, Inc., Charlotte, N. C., have converted about 65% of machinery in local mill for production of war materials, including head bandages and similar specialties. The company reports net profit, after taxes, for first half of 1942 of $128,052.

Randleman (N. C.) **Mills, Inc.,** formerly Deep River Mfg. Co., which was taken over by new interests Nov. 1, 1941, has had extensive improvements made to all buildings and machinery. The first floor of the mill building, unused for many years, has been refloored and furnished with 10 new Saco-Lowell cards, two new Saco-Lowell combers, a new Saco-Lowell lap machine, four second-hand D-2 combers, and 12 deliveries of second-hand drawing. Two warehouses have been rebuilt, and 1,224 twister spindles and a new Foster No. 102 winder have been installed.



BARBER-COLMAN

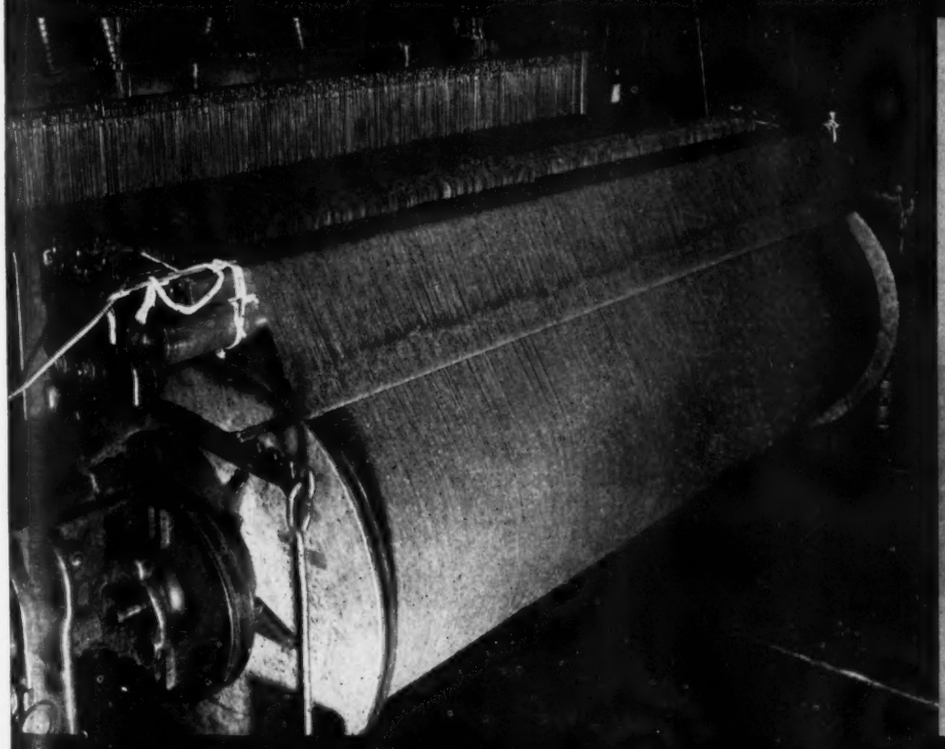
Portable

WARP TYING MACHINE

MODEL "LS"

TYING-IN WOOLEN WARPS... AT THE LOOM!

LOW COST WARP REPLENISHMENT - HIGHEST QUALITY RESULTS



Above, operator using Model "LS" machine equipped with new tying mechanism for woolen yarns. Left, woolen warp completely tied-in at the loom. These pictures were made in a prominent mill which manufactures automobile upholstery fabrics and blankets.

BARBER-COLMAN COMPANY

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which is almost twice as effective as glycerin. It is a heavy, colorless and odorless liquid, non-volatile and non-inflammable. It is

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without preference rating. Makes gums swell, exerts smoothing effect on starch paste, prevents gelatine and glue from gelatinizing.

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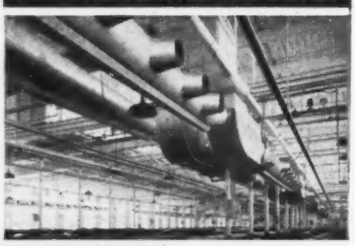
ENGINEERS — EQUIPMENT FOR THE TEXTILE INDUSTRY



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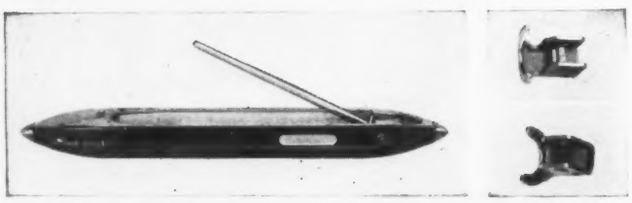
AIR CONDITIONING ENGINEERS
THE BAHNSON CO. WINSTON-SALEM, N. C.

For 25 years we have been successfully solving the air-conditioning problems of the Textile Industry.



A NEW GIRT HAS BEEN ADDED TO THE ONE PIECE GUIDE AND CATCH

This girt, a new development for Watson-Williams rayon shuttles, stops the spindle from raising too high and thus prevents the top of the shuttle from splitting. It also holds the spindle level.

WATSON-WILLIAMS MFG. CO.
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NORTHERN REPRESENTATIVES: G. C. Burbank, 3 Beaconsfield Rd., Worcester, Mass.

Prison Industries Division of the War Production Board has completed arrangements with the Tennessee prison authorities and looms are being installed in the main State penitentiary at Nashville, Tenn. for the manufacture of osnaburg.

Rose Cotton Co., Lincolnton, N. C., recently organized with capital of $50,000, plans early operation of local mill. H. W. Rudisill, Lincolnton, heads the new company.

J. C. Sanders Cotton Mill Co., Mobile, Ala., sustained a fire loss estimated between $350,000 and $500,000, when part of mill at Prichard, near Mobile, was destroyed by fire recently. It is said that plant will be rebuilt at early date. Proposed expansion at this mill (previously reported) covers a project for Government, and is dependent on Federal approval for development.

Standard-Coosa - Thatcher Co., Chattanooga, Tenn., is planning a $5,000 addition to its present building, to be of brick and concrete.

Textile Corp., Asheville, N. C., has been incorporated in North Carolina by James G. H. McLure, Frank M. Weaver and George H. Wright, all of Asheville.

Union Cotton Mills, Maiden, S. C., have recently completed two one-story additions, 40x50 ft., and 25x70 ft., for increased capacity in picker room and twister department, respectively.

United Lace & Braid Mfg. Co., Cranston, R. I., has taken out a permit for small addition to mill for general service. Construction contract has been let to Bowerman Bros., Cranston.

Utica & Mohawk Cotton Mills, Inc., report net profit, after taxes of $214,831 for first half of 1942 compared with $50,571 for first half of 1941.

Waupun, Wis. Otto Brunkow, Madison, Wis., architect, is preparing plans for a new one-story hemp mill in vicinity of Waupun, to be owned by Defense Plant Corp., Washington, D. C., a Federal agency, and operated by an industrial company, name to be announced later.

Wool Mill News

American Hair & Felt Co., Newark, N. J., has leased a two-story building at Brown St. and Lister Ave., and will occupy for a warehouse, making the third such unit of the company in the city.

American Woolen Co's. plant at Dover, N. H., on Aug. 28, suffered from fire, forcing the war-busy plant to shut down for the third time in 18 months. Twice previously the mill was made idle by engine trouble—once for 5 days, and the other time for 14.

Bigelow Sanford Carpet Co., Inc., reports net profit, after depreciation and taxes, for first six months of $903,150, compared with $1,084,570, for the first six months of last year.

Blackinton Mills Corp. and **Norad Mills, Inc.,** North Adams, Mass., have been merged by John W. Lindsay, former agent and now the new president of the combined enterprise. Blackinton Mills has bought real estate, plant and inventories of Norad Mills, which will be known as Norad division of Blackinton. Albert E. Garrett, for many years with Arnold Print Works, has been named secretary-treasurer of the new corporation.

Broad Brook (Conn.) **Co.** has work under way on a new filtration plant at mill, for which contract recently was let to H. Wales Lines Co., Meriden, Conn.

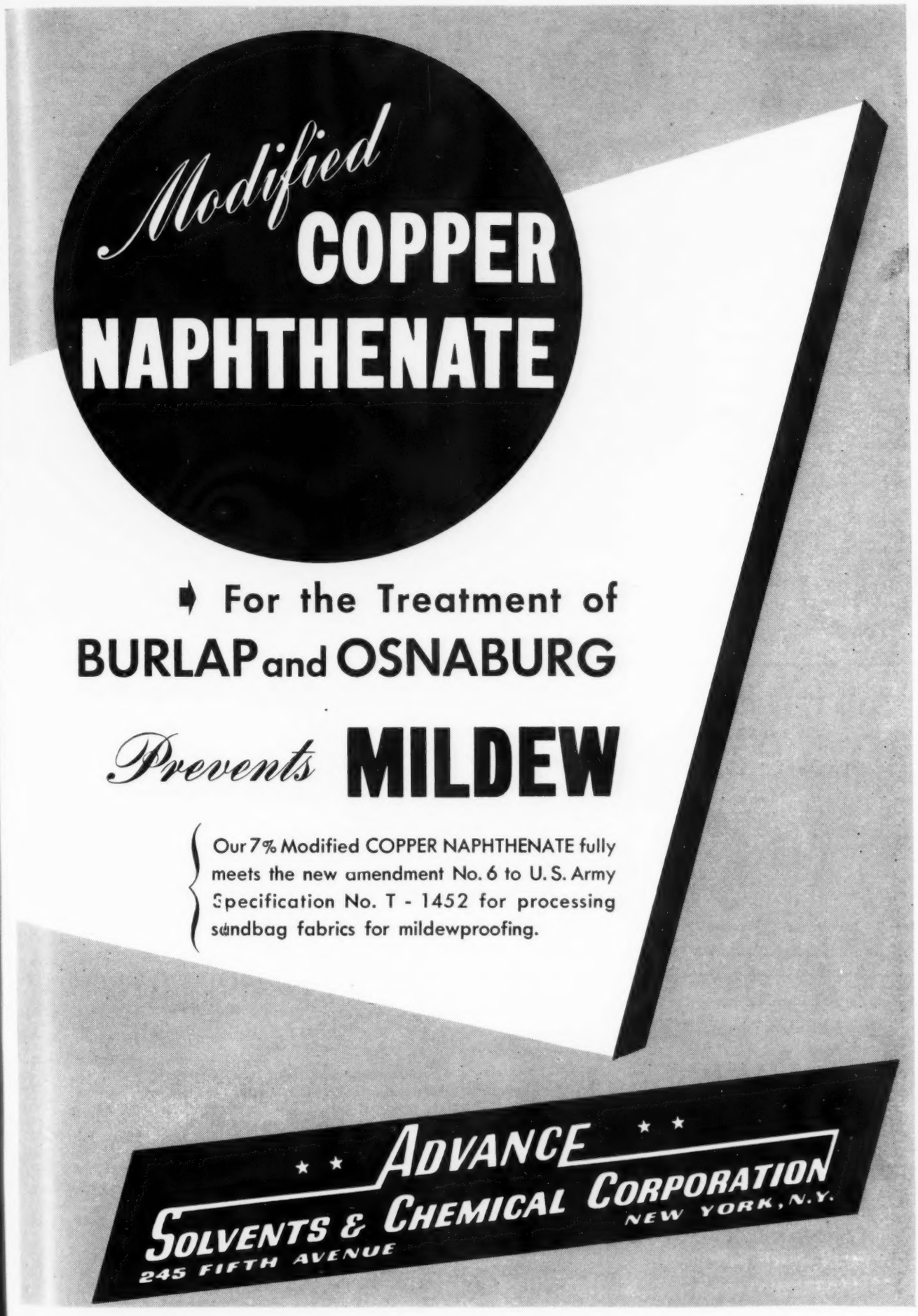
Continental Woolen Mills, Ltd., Toronto, recently organized, care of H. M. Sherman, 1657 Bathurst St., Toronto, are planning construction of a new mill in vicinity of city. Cost reported over $75,000, with equipment.

Corriedale Mills, Inc., Moosup, Conn., recently organized with capital of $50,000, are said to be planning early operation of mill with 12 looms on woolens and worsteds. Albert Roby, Moosup, Conn., is principal incorporator. He was superintendent, styler and designer of the Brunswick Worsted Mills. Vilko Laric, of Yugoslavia is also an incorporator.

Fabyan (Conn.) **Woolen Co.,** has recently been established by George J. Thomas and Louis Thomas. They have 12 automatic looms for weaving men's and women's worsteds. George Thomas was superintendent of the Haddam Woolen Co. for four years.

French Worsted Co., Woonsocket, R. I., has begun one-story addition, for which general contract recently was let to Pelletier Construction Co., Woonsocket. Cost reported over $40,000, including equipment. Walter F. Fontaine, Inc., Woonsocket, is architect.

Lawrence Blanket Co., Worcester, Mass., has been chartered with a capital of 200 shares, no par value. Incorporators are S. and Anne K. Zilkind, Worcester; Saul Zilkind, Webster; and Roslyn Shapiro, Oxford.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COPPER
NAPHTHENATE
For the Treatment of
BURLAP and OSNABURG
Prevents MILDEW
Our 7% Modified COPPER NAPHTHENATE fully meets the new amendment No. 6 to U. S. Army Specification No. T - 1452 for processing sandbag fabrics for mildewproofing.
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Simplified
DESIGN
Flexible
POWER
Better
EVAPORATION
More sensitive
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MODEL D
SOUTHWORTH HUMIDIFIER

Experienced textile men who know the merits of previous models of Southworth Humidifiers have found improvements in Model D that make it even more reliable and efficient.

Extreme sensitivity of control, and an "airplane propeller" type fan for greater evaporation, are two outstanding features.

NOTE This advertisement is to remind you to include Southworth Humidifiers in your after-the-war plans. Frankly, we are 100% on war work and cannot make humidifiers at the present time.

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THE SOUTHWORTH MACHINE COMPANY
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APPROVED TESTING INSTRUMENTS

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INDUSTRIAL PLANTS • PAPER MILLS • TEXTILE MILLS • PLANS AND DESIGNS
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TEXTILE MILL NEWS

Paragon Worsted Co., Providence, R. I., has awarded general contract to Wilkinson Co., Providence, for alterations and improvements in a storage building at mill.

Stillwater Worsted Co., Mapleville, R. I., will make further extensions to mill in addition to dye house unit now in course of construction (previously reported). Contract has been let to Arthur M. Vick, Providence, for three one-story structures, 16x45 ft., 16x46 ft., and L-extension, 30x42 ft.; the latter will connect the new dye house, 50x100 ft., with main mill. Cost reported over $45,000.

Susquehanna Woolen Co., New Cumberland, Pa., has been placed in the hands of Russell B. Updegrass as receiver. Refinancing is in prospect.

Wanskuck Co., Providence, R. I., has awarded contract to Rowley Construction Co., Providence, for a new coal storage facilities for service at power plant, and will proceed with work at once.

Rayon & Silk Mill News

American Viscose Corp., reports net profit for first six months, after provision for taxes, of $2,422,805; compared with $3,375,201 for first six months of 1941.

Appalachian Textile Corp., Asheville, N. C., is a newly organized concern, which will buy and sell all kinds of synthetic fibers, etc. It has a capital stock of 100 shares no par value and 250 shares of $100 par value.

Bonita Ribbon Mills, Brewton, Ala., are completing installation of additional equipment, providing for large increased capacity. About 100 persons will be added to the working force.

Celanese Corp. of America reports net profit after taxes for first half of 1942 of $3,357,820 compared with $3,149,921 the year previous.

Century Ribbon Mills, Inc., and **Century Factors, Inc.,** report net profit for first six months after taxes of $67,795 compared with $20,344 for similar period of 1941.

Herward Fabrics Co., Walpole, Mass., has moved its general offices from New York to the plant, although retaining a selling office at New York.

Industrial Rayon Corp. reports net profit for first six months of $771,499 after taxes, compared with $1,533,053 in similar period of 1941.

Irving Air Chute Co., Buffalo, N. Y., are building a $139,000 plant at Lexington, Ky., to be devoted to manufacture of parachutes for the government.

North American Rayon Corp. reports net earnings after taxes for first 24 weeks of 1942 of $675,757 compared with $1,070,228 for similar period in year previous.

Rayflex Mfg. Co., Inc., Paterson, N. J., has removed its weaving mill to Red Hill, Pa., where a local building recently was acquired, and will operate at that location in future. It is proposed to expand capacity at new plant. Rayflex Fabrics, Inc., has been chartered as a subsidiary to handle sales and distribution.

Stanley (N.C.) Mills, previously reported, will consist of two units—one for spinning, one for throwing. Various crepe and other twists will be made as well as blends. Atwood twisters and Whitin spinning frames will be used.

Stewart Silk Co., Easton, Pa., whose plant is leased to General Aniline & Film Corp., will build a $18,500 plant addition.

Thread City Silk Co., Willimantic, Conn., has filed notice of preliminary dissolution. Horace A. Smith, Willimantic, is agent for the company.

Knitting Mill News

A. & G. Knitting Mills, Philadelphia, have filed a petition in bankruptcy.

Adams-Millis Corp. reports net profit after taxes for first six months of $304,222, compared with $183,780 in similar period a year ago.

Art Knitting Mills, Los Angeles, Calif., is the firm name under which Morris Gottsegen has obtained a certificate to conduct business at 239 South Los Angeles St., Los Angeles, Calif.

Campbell & Helmich, Reading, Pa., has taken over a three-story plant in Boyertown, formerly a part of the John H. Blood knitting mill.

Capital Knitting Corp., Waterford, N. Y., recently organized with capital of 200 shares of stock, care of Ernest L. Boothby, First Trust Co. Building, Albany, N. Y., attorney and representative, plans early operation of local mill.

Colonial Knitting Mills, Philadelphia, has sold plant at southeast corner of B and Clearfield Streets, to H. Stewart Stevens.

Dixie Glove Mfg. Co., Gaffney, S. C., will construct its own building to replace the

IT'S HARD TO PLAN FOR PEACE IN TIME OF WAR

BUT IT'S GOOD BUSINESS

It isn't easy, in the midst of your current problems, to take time out to think how "after-the-war" hosiery trends will affect your mill—*but it is good business.* War is changing the public psychology and creating a new set of values in hosiery. Certain factors are already evident that should be evaluated for their influence on post-war planning.

The shortage of traditional yarns has set in motion a new trend in the hosiery industry. New styling with available yarns already has acquainted the public with the advantages of these yarns and the styles that can be produced with them. And still newer yarns are in the process of development with the future very much in mind. Such changes have lifted hosiery selling out of its rut and given it fresh spice and variety.

Of one thing we can be certain: the hosiery industry will not return to the place where it left off when the war began. Many of today's trends are going to carry over into the post-war world . . . to serve a more discriminating public in a buyer's market. Alert mill management will lose no time in re-directing its efforts and operations into channels cut out by the war's influence.

The type of knitting machines, for example, that will enable a mill to meet these trends after Victory warrant immediate consideration. No doubt you have been turning this thought over in your mind in terms of your mill's place in this "future" market. We have been doing a lot of thinking, too, about mills' post-war problems, and we have some ideas that we think you might find interesting. May we talk them over with you—just drop us a line and we'll be glad to call.

The high efficiency of Scott & Williams knitting machines can *only* be maintained by using genuine S & W knitting machine replacement parts. You can count on prompt delivery, too, from S & W stockrooms at Laconia. Teletype service is free from our New York and High Point offices.

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WORSTED • COTTON • SPUN RAYON
ARLINGTON MILLS
LAWRENCE, MASS.
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Old Time Carding Experts-Say-
"Give me
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50th. YEAR OF SERVICE
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"YOU CAN COUNT ON WAK COUNTERS"
They are
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ACCURATE
DEPENDABLE
We build single, double and triple pick counters; yardage, rotary, ratchet and special counters.
Write—Phone—Wire
WAK INDUSTRIES
CHARLOTTE, N. C.

plant recently destroyed by fire. The proposed building will be 25 x 80 ft., and will consist of two stories and a basement.

Gotham Hosiery Co., reports net profit for first six months, after taxes and charges, of $246,897, compared with $52,208 the year previous.

Hewitt Hosiery Mills, Marion, N. C., has succeeded the Blue Ridge Hosiery Mills as result of a change in name and management.

Infants' Socks, Inc., Eufaula, Ala., now has its finishing department and offices housed in a building on North Randolph Street, formerly occupied by the Alabama Knitting Mills. The plant on Eufaula and Barbour streets is being used exclusively for manufacturing.

McMurchy & Co., Huttonville, Ont., sustained a fire loss recently at mill, reported at $16,000, including equipment. It is planned to rebuild.

Nocturne Corp., Rock Hill, S. C., recently incorporated, has taken over the local mill and property of Jac Feinberg Hosiery Mill, Inc., and will operate the plant in the future. Last noted company is being dissolved. The same ownership of mill continues, with Jac and Abraham Feinberg heading the new organization.

Pearl Mill, Inc., Boiling Springs, N. C., recently chartered, is now operating in former local mill of Winner Hosiery Mills, Inc., for similar line of production. Plant has been improved and will have facilities for employment of about 50 persons.

Phoenix Hosiery Co., Milwaukee, Wis., reported net income Aug. 4 for the six months ended June 30, 1942, of $225,789, after provisions for State and Federal income taxes of $338,700. The firm reported total current assets of $4,681,458 against total current liabilities of $1,120,512.

Propper - McCallum Hosiery Co., Northampton, Mass., control reverted to the stockholders last month when a five-year agreement, whereby five trustees operated the company, terminated. The present directors will continue until the next annual meeting of the company.

Puritan Knitting Mills, 813 25th St., Altoona, Pa., has been incorporated by Adrian N. Balstra, Hult L. Wilson, and D. E. Newman, all of 90 Broad Street, New York.

Real Silk Hosiery Mills, Inc., Indianapolis, and subsidiary companies in a preliminary estimate for the six months ended June 30, report a consolidate profit of $99,600 after depreciation of $136,586 and a provision of $70,000 for Federal income taxes. A special reserve of $80,000 for possible future losses and contingencies has been appropriated from such profit, leaving a balance of $19,000 for earned surplus.

Wortham Hosiery Mill, Villa Rica, Ga., has recently completed installation of nine additional circular knitting machines and auxiliary equipment for increased capacity and machinery is being placed in service.

Processing Plant News

Blackstone Dye Works, Inc., Woonsocket, R. I., has given contract for an addition to Brien Building Co., Woonsocket.

Blue Ribbon Dyeing & Finishing Co., Paterson, N. J., is in hands of Samuel Geldziler and William Brown, as receivers.

Modern Central Dyeing & Finishing Co., Paterson, N. J., is changing over two-thirds of its equipment to the use of coal. Last year the company transformed its coal boilers into oil boilers.

Newport Finishing Co., Coventry, R. I., recently moved from Fall River, Mass., has petitioned the U. S. District Court at Providence to permit its reorganization under Chap. X of the Bankruptcy Act. The court appointed two trustees to operate the business until a hearing on Oct. 9.

Pataganseti Finishing Co., Niantic, Conn., recently bought the Thames Dyeing & Bleaching Co., Niantic, for the manufacture of surgical gauzes, bandages and hospital supplies. It was stated that the plant would employ 125 persons and have a weekly capacity of 1,500,000 yd.

Sanco Piece Dye Works, Garnerville, N. Y., has purchased the plant and equipment of the Standard Silk Mills, Phillipsburg, N. J., from A. D. Juilliard & Co.

Whitney (S.C.) Mfg. Co.'s cotton warehouse has been leased by the Springdale Finishing Co., Canton, Mass., which has equipped it for a finishing unit for the duration of the war, with the possibility of purchasing it later if conditions justify. The machinery is of the wide type now needed for proofing and finishing tent cloth and olive drab materials for leggings, etc.

ATTENTION KNITTERS

We are proud to announce after repeated trials in leading hosiery mills our new:

MORPEL KNITWAX 60

A remarkable new development for low cost treatment of rayon yarn to give more efficient knitting, smoother fabric, and better looking hose.

This new synthetic high melting wax is both solvently soluble and aqueously emulsifiable. It can be applied either before or after throwing, by soaking or from emulsion roll and twist set by usual methods. Cones retain proper condition indefinitely due to lack of dependence on moisture. Easily removed by simple alkaline scour.

Continued use by leading knitters has proven its effectiveness. Now available in regular production in new bead form for ease of handling. Write or phone for demonstration.

MORPEL PRODUCTS

MORTON CHEMICAL COMPANY

Greensboro, North Carolina

Greensboro Office and Plant
Phone 6623—P. O. Box 368

Greenville, S. C., Office, R. E. Buck, Mgr.
312 Woodside Bldg. Phone 4400

Why we have a "Paternal Interest" in all PIGMENT-DYEING PIGMENT-PRINTING

We have a paternal interest in pigment-dyeing and pigment-printing. After all, we cannot help feeling the responsibility of the technical pioneer in this fast growing field. For seven years our Research Laboratories have been examining the fundamental factors involved in binding pigments successfully to fabric fibres. For over four years we have offered Aridye pigmented emulsions commercially and have continually improved our technique and practice. In spite of the general recognition of the inevitable part pigments will play in the industry, there are many who do not yet understand the advantages and limitations of pigment-printing and pigment-dyeing. For such we raise and answer the following questions:

How Firmly Can Pigments Be Bonded to Cloth Fabrics?

By careful selection of the proper pigment, the correct form of the pigment particle, efficient dispersion in the binder, the use of binders of adequate tenacity and especially with the recommended curing, Aridye Textile Colors can be bound so firmly as to pass the most severe scrub tests.

What Are the Objections to Pigment-Printing or Dyeing?

The one most frequently mentioned is dry crocking. Objectionable crocking, however, is not inherent in the process but, if proper colors have been used, it is either the result of improper application or of inadequate curing. Of course, pigments are not recommended for deep shades that can only be achieved by using more pigment than can be properly bound by the binder. It is well to remember, however, that any pigment color that may rub off is inert—not a soluble dyestuff that will stain adjacent fabrics.

Is Pigment-Dyeing Being Used in War Fabrics Production?

Yes. Here are a few instances: Pigment-dyeing with Aridye Textile Coloring Materials is being used on O.D. Herringbone Twill. Over 25 million yards of camouflage cloth have been pigment-dyed by this patented Aridye method. 25 million yards of mosquito netting have also been dyed with fast-to-light O.D. pigments, and Aridye colors have been widely used on Sandbag cloth.

Does Pigment-Dyeing Meet Established Standards?

The high standards for fastness established by the textile industry are met and in many cases exceeded by pigment-dyeing with Aridye colors.

Do Textiles Dyed with Aridye Colors Meet Other Tests?

Yes. Besides wash-fastness and light-fastness (one line of colors withstands 300 hours in the Fadeometer) work fabrics dyed with Aridye colors have passed comparative tests covering Mildew Effectiveness, Resistance to Abrasion, Chlorine Retention, Air Porosity and Presence of Primary Irritating Substance. Copies of these reports are available.

What Is the Essential Character of Aridye Textile Colors?

Aridye colors for pigment-dyeing or pigment-printing are emulsions. Properly prepared pigments are dispersed in a solution of selected synthetic resins into which water is emulsified. Since these emulsions remain stable while being padded, there is no exhaustion of the bath. All components are taken up by the fabric in the same proportions.

What Is the Difference Between Pigment-Dyeing and Conventional Methods?

The former uses pigments, the latter soluble dyestuffs and yet generally speaking, in one sense, most methods of coloring textiles employ pigments. Some develop the pigments on the cloth during the "dyeing" processing. Others disperse the pigments in binders and then apply them. The question is which method gives the fastest possible results or is most efficient for a particular purpose or is the least expensive.

Are These Pigment-Dyeing Materials Available?

Aridye Textile Coloring Materials for pigment-dyeing or pigment-printing are available now in a wide range of popular colors for essential civilian fabrics and to meet approved specifications for war fabrics.

Can Aridye Colors Be Used on Existing Equipment?

In most cases, yes. Some rearrangement of equipment or even additional equipment may be necessary to get the best results. This can be determined by a proper survey of plant facilities.

Are All of the "Bugs" Out of the Process?

No, although Aridye Textile Colors for pigment-printing have been in successful use for many years and for pigment-dyeing for the past year. The materials and methods of application are being continually improved. Aridye Corporation has recently been allowed patents on many of these improvements in the art of textile finishing. As pioneers in this development of pigment-printing and pigment-dyeing we recognize the responsibility for improving both the materials and methods of application by continuing research.

Does Pigment-Dyeing Cost More?

Yard for yard, pigment-dyeing with Aridye Textile Colors costs no more than other quality methods of dyeing. In many instances savings are effected.

Can Any Finisher Obtain a License?

No restrictions are being imposed to limit the process to a few plants. Most of the leading plants are licensed to apply Aridye Textile Colors and more licenses are being added to the list each week.

• • •

IMPORTANT: Satisfactory pigment-dyeing results can only be expected if the finisher follows the approved methods based on technical knowledge and production experience. Maximum fastness, for example, can only be obtained by adhering to the following:

The selection of technically correct pigment colors.

Proper application of the color to the cloth.

Adequate curing to effect the bond between the pigments and fibres.

We will be glad to discuss with a finisher any specific problem of applying pigments for printing or for dyeing.

ARIDYE CORPORATION, *A Subsidiary of Interchemical Corporation*, FAIR LAWN, NEW JERSEY

Aridye

TEXTILE COLORING MATERIALS

ROCK HILL, SOUTH CAROLINA • FAIR LAWN, NEW JERSEY • PROVIDENCE, RHODE ISLAND

For the Textile Industry

Cotton Rolls	Schreiner Calenders
Cotton and Wool Rolls	Silk Calenders
Combination Rolls	Embossing Calenders
Husk Rolls	Cloth Pilers
Paper Rolls	Water Mangles
Chasing Calenders	Dye Padders
Embossing Rolls	Squeezers
Friction Calenders	Washers
Rolling Calenders	Automatic Winders

Mullen Testers

Whirls out the work in as little as 1/2 the usual time

FLETCHER HIGH SPEED

"WHIRLWIND"

with exclusive FLETCHER SAFETY FEATURES

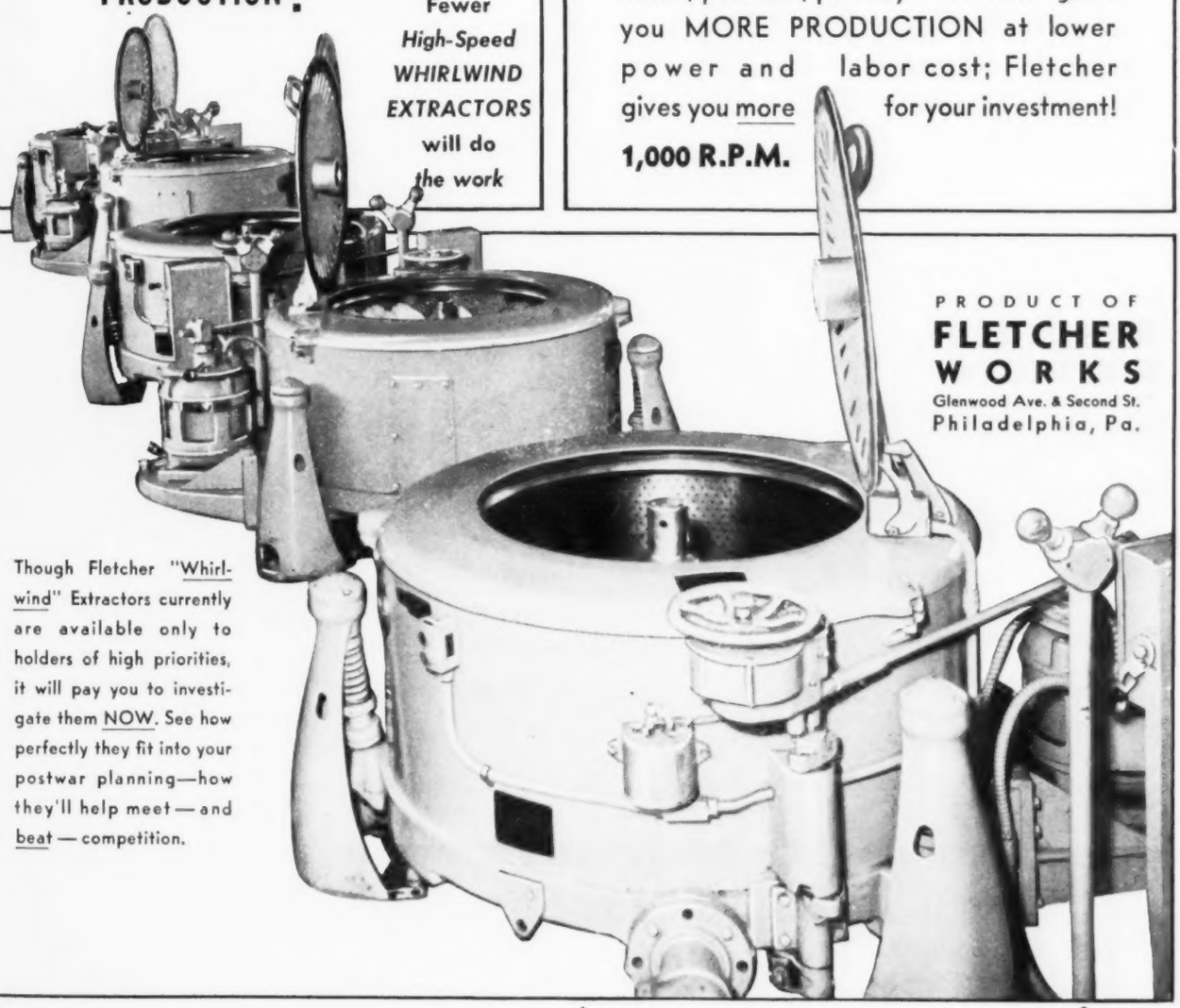
• Yours is a five-fold saving on every batch! Saving, first, in loading time, due to Fletcher's convenient design.... Saving, next, in seconds gained by the extra-fast, smooth acceleration.... Then, the very high speed reached gives you maximum drying in minimum time.... And, stopping, controlled by the automatic hydraulic brake, saves still more time (and wear).... To which you can add the seconds clipped from unloading time — to round out the cycle of $aving!

No matter how you figure it — per batch, per hour, per day — Fletcher gives you MORE PRODUCTION at lower power and labor cost; Fletcher gives you more for your investment!

1,000 R.P.M.

LESS INVESTMENT FOR MORE PRODUCTION!

Fewer *High-Speed WHIRLWIND EXTRACTORS* will do the work



PRODUCT OF

FLETCHER WORKS

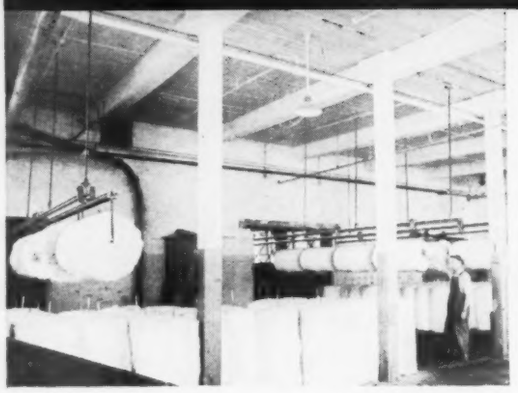
Glenwood Ave. & Second St.
Philadelphia, Pa.

Though Fletcher "Whirlwind" Extractors currently are available only to holders of high priorities, it will pay you to investigate them NOW. See how perfectly they fit into your postwar planning—how they'll help meet — and beat — competition.

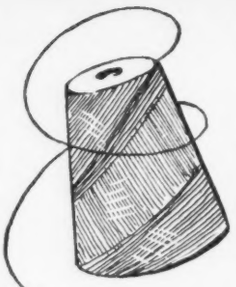
AMERICAN MONORAIL EQUIPMENT

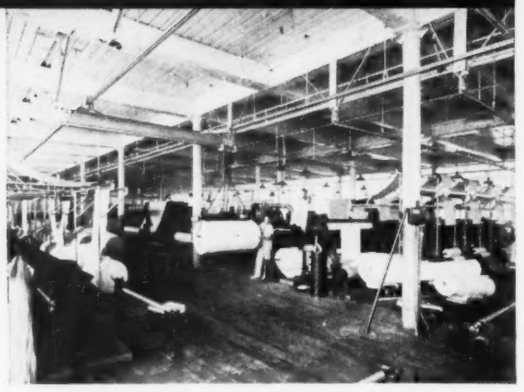
HELPS SPEED UP WAR PRODUCTION

IN EVERY TEXTILE OPERATION

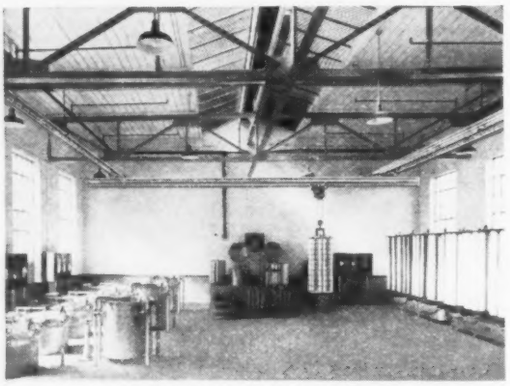


● Production moves easily with each carrier handling four laps on tracks extending throughout the card room.



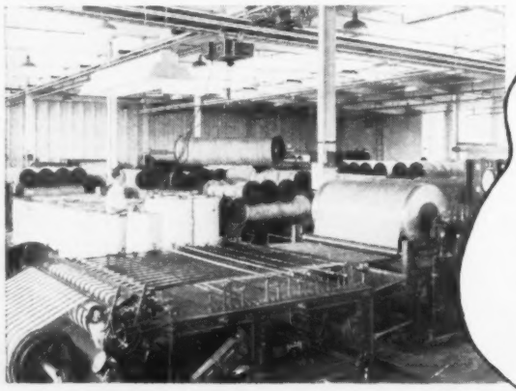


● Short hand-operated crane serves finishing machines and interlocks with spur track to inspection machines.



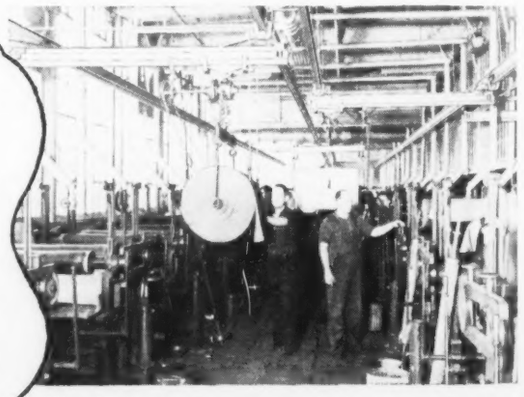
● Simple hand pushed crane with electric hoist completes the operation of this modern package dye house.

● Overhead handling of warps and rolls permits compact arrangement of looms by taking up aisle space.



● Hand operated crane with electric hoist covers beam storage area for serving slashers.

Ask us to show you how American MonoRail will help step up production in your mill to help you help win the war.



● Short transfer cranes interlock together to serve all jigs in this dye shed.

THE AMERICAN MONORAIL CO.

13108 Athens Avenue — Cleveland, Ohio

YOUR TRUMP CARD...

For warp sizing cotton yarns for Army poplins, herringbones and shirtings, and especially for warp sizing spun rayon.

Stein-Hall Ace Gum . .

- ♠ *Assures high weaving efficiency in lower humidities.*
- ♠ *Made of domestic materials . . .* not affected by scarcity of ingredients.
- ♠ Cooks quickly . . . *important in plants on full time war work where every minute counts.*

Stein-Hall ACE GUM offers you these advantages . . . plus economy. Ask for a trial lot.

Ace Gum is only one of our line of high quality special textile sizing, finishing and printing starches and gums. Our research and field technical staffs are ready to help you solve your problems . . . *for the duration and afterwards.*

STEIN, HALL MFG., CO. ★ STEIN, HALL & CO., INC. ★ STEIN, HALL, LTD.

2841 South Ashland Ave., Chicago 285 Madison Ave., New York City 250 Van Horne St., Toronto, Can.
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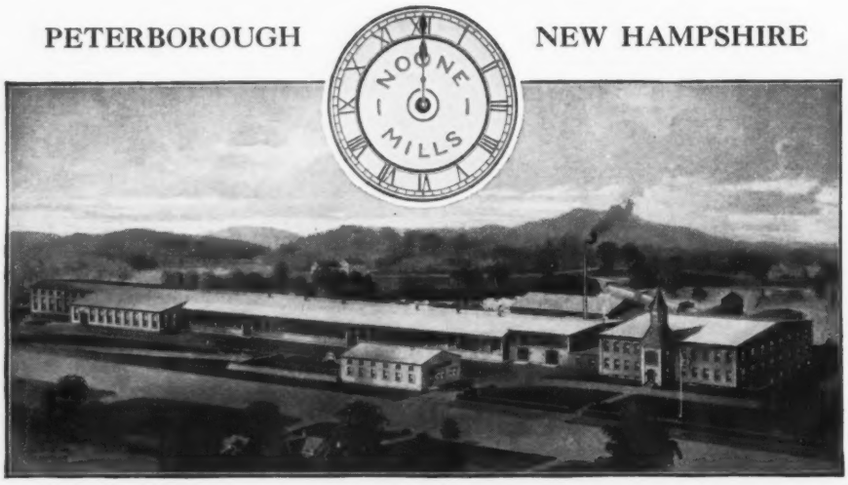
76 YEARS OF STARCH SERVICE ★ A TEXTILE STARCH FOR EVERY TEXTILE PURPOSE

The Joseph Noone's Sons Company

A. Erland Goyette, Owner

PETERBOROUGH NEW HAMPSHIRE



Established 1831

Noone's Standard Roller Cloths

Insist on Noone's Standard Roller Cloths for your Spinning Rolls. Noone's have been Standard since 1831.

Results and costs are what count most.

Use Noone's Roller Cloth and be assured of a Strong Round uniform yarn, the best obtainable. Eventual cost, less than any other covering.

Good spinning can always be obtained when Noone's Roller Cloth is used, as it is the properly built Cloth,—has the correct cushion and consistency, and uniform gauge.

Noone's is best by test.

Many materials have been used for Spinning Roll Covering in years past, but have eventually been discarded in favor of the dependable Woolen Roller Cloth and Leather.

Do not be misled, put your faith in the good Old American Products: Noone's Roller Cloth and Leather. If in doubt, allow us to demonstrate the superiority of our Roller Cloth and a leather cot.

Use Noone's Roller Cloths, Noone's Slasher Cloths, Noone's Clearer Cloths.

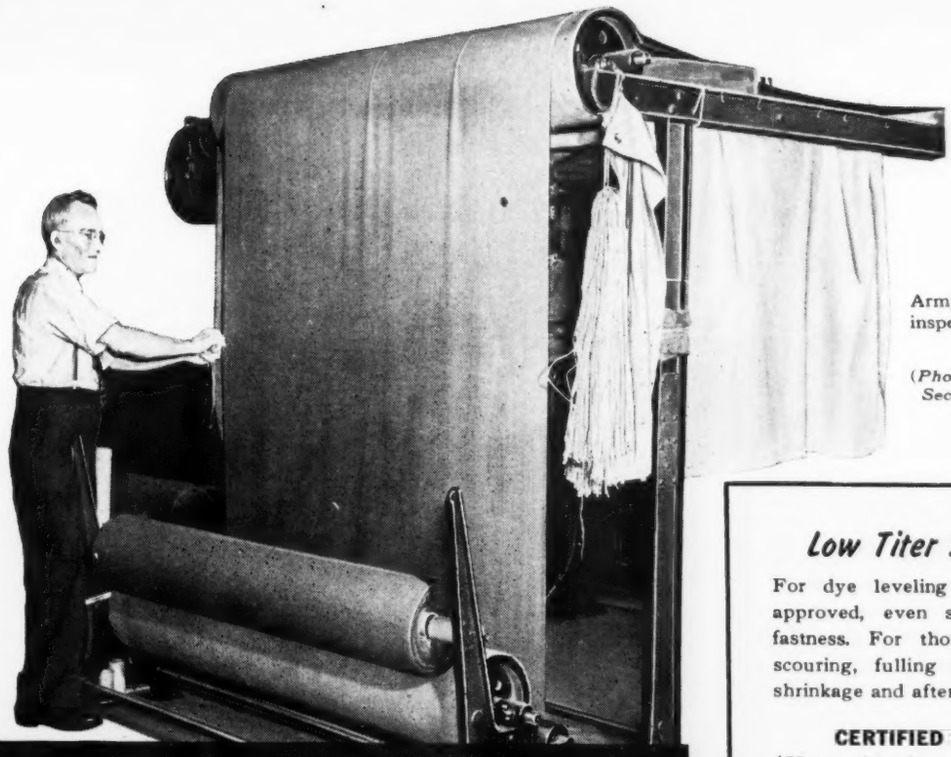
Noone's are the Pioneers in Mechanical Cloth Manufacturing in America.

WILLIAM R. NOONE & COMPANY

Selling Agents

ARNOLD T. MALONE, Manager

105 Washington Street Boston, Mass



Army fabric gets rigid inspection by civilian expert.

(Photo, courtesy Photo Section, Philadelphia QM Depot)

To Deliver the Goods–
to Uncle Sam's Specifications
Use Armour Textile Soaps!

The Right Soap for Every Wet Processing Job. Armour offers you 12 different textile soaps: high titer, low titer; soaps with 5 different types of bases; soaps in chip, flake, powder and jel form. Yes, Armour Textile Soaps are "custom-made" to give you results that get QM acceptance.

Dependable. You can depend on the gentle action, the stability, the consistent high performance of Armour Textile Soaps. Finest quality and uniformity is assured because Armour uses only choice, selected raw materials and chemically controls every step of manufacture.

Economical. You get more soaping action for your money in Armour Textile Soaps because moisture content is reduced to a minimum.

Quickly Available. Write, wire or phone Armour and Company for the soaps you need. In many cases delivery can be made the very day your order is received, because Armour has 350 Branch Warehouses located throughout the country ready to serve you. Why not get in touch with Armour today?

Low Titer Soaps

For dye leveling to achieve approved, even shade; color fastness. For thorough wool scouring, fulling to specified shrinkage and after-scouring.

CERTIFIED SOAP
(Vegetable fatty acid base. Available in flakes and solid form.)

VERDANT SOAP
(Olive characteristics. In flakes, powder [neutral or built] and bar form.)

TEXSCOUR SOAP
(Red oil base. In flakes.)

RE-NU SOAP
(Potash soft soap.)

High Titer Soaps

For cotton scouring after vat dyeing to clean thoroughly, tone up shade. For effective scouring under high temperatures.

FLINT SOAP
(Tallow base. Titer 41-42° c. In chips and powder.)

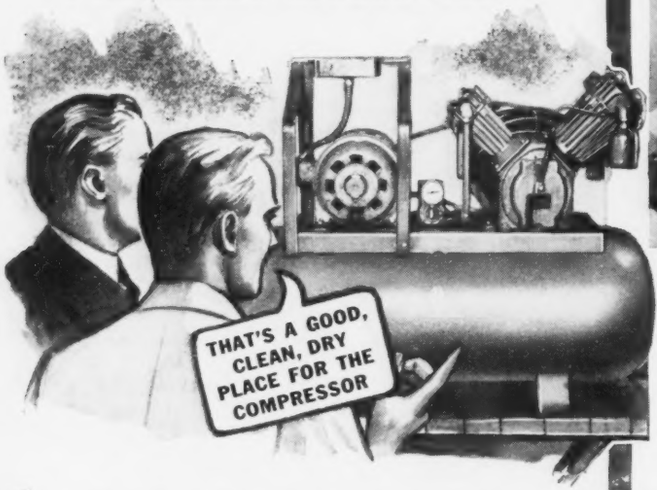
INDUSTRIAL SOAP
(Tallow base. Titer 39-40° c. In chips and powder.)

ARMOUR and COMPANY
INDUSTRIAL SOAP DEPARTMENT
1355 WEST 31st STREET, CHICAGO, ILLINOIS

NO WAITING! 350 ARMOUR BRANCH WAREHOUSES INSURE QUICK DELIVERY OF YOUR ORDER!

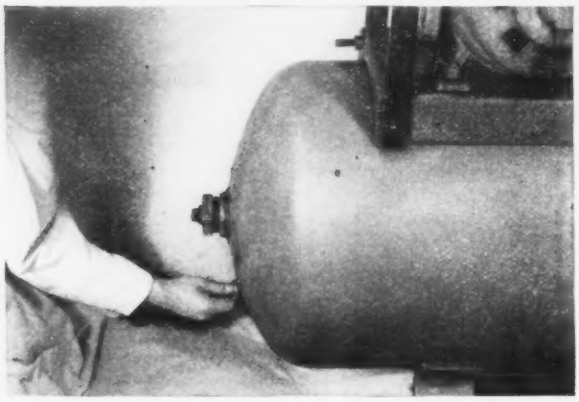
DON'T LET NEGLECT SABOTAGE YOUR VITAL LUBRICATION EQUIPMENT!

These Five Simple Precautions Can Add Years to the Life of Pneumatic Grease Guns!



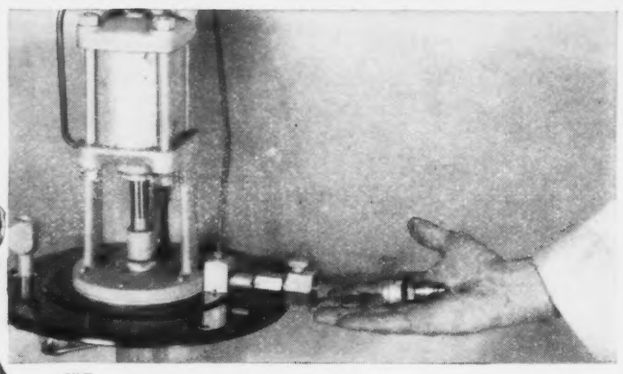
1 *MOISTURE OR GRIT NEAR COMPRESSOR MEANS NEEDLESS WEAR ON YOUR PUMP!*

Air compressors should be placed where air is clean and dry. Avoid basements, other damp places, or location near a grinder or other source of dust and grit. Moisture and foreign particles damage pump, cause trouble.



2 *TANK SHOULD BE DRAINED WEEKLY!*

Condensation in the air line cuts leather, scores cylinder, and causes deterioration of hose. Air tank should be drained *at least once a week!* A petcock is provided for this purpose. This task takes little time, saves much trouble.



3 *CLEAN FILTER SCREEN EVERY MONTH!*

There is a filter screen at the oiler in most air-operated pumps. This should be cleaned every month, or oftener, to avoid having foreign particles clog the air inlet. Ample air volume at all times is essential to efficient performance. (Be sure your air lines are of sufficient size for your needs.)

4 *OIL YOUR PUMP EVERY DAY!*

Your air-operated grease pump requires regular lubrication, just as any other machine does. Oil it every day with a medium grade of oil—to insure longer life, to preserve couplers and air valves.

5 *CHECK OFTEN FOR AIR LEAKS!*

Compressed air is a commodity not to be wasted. Wasted air pressure is wasted power. Audible leaks may require reseating air valve, replacing gaskets or cup leathers to correct sluggish performance of air-operated equipment.

Alemite engineers want to help you get the most out of your vital lubrication equipment. Write to us about any maintenance, repair, or service problem. There is no obligation!

ALEMITE HELPS THE WORLD GO 'ROUND

Ask Anyone in Industry!

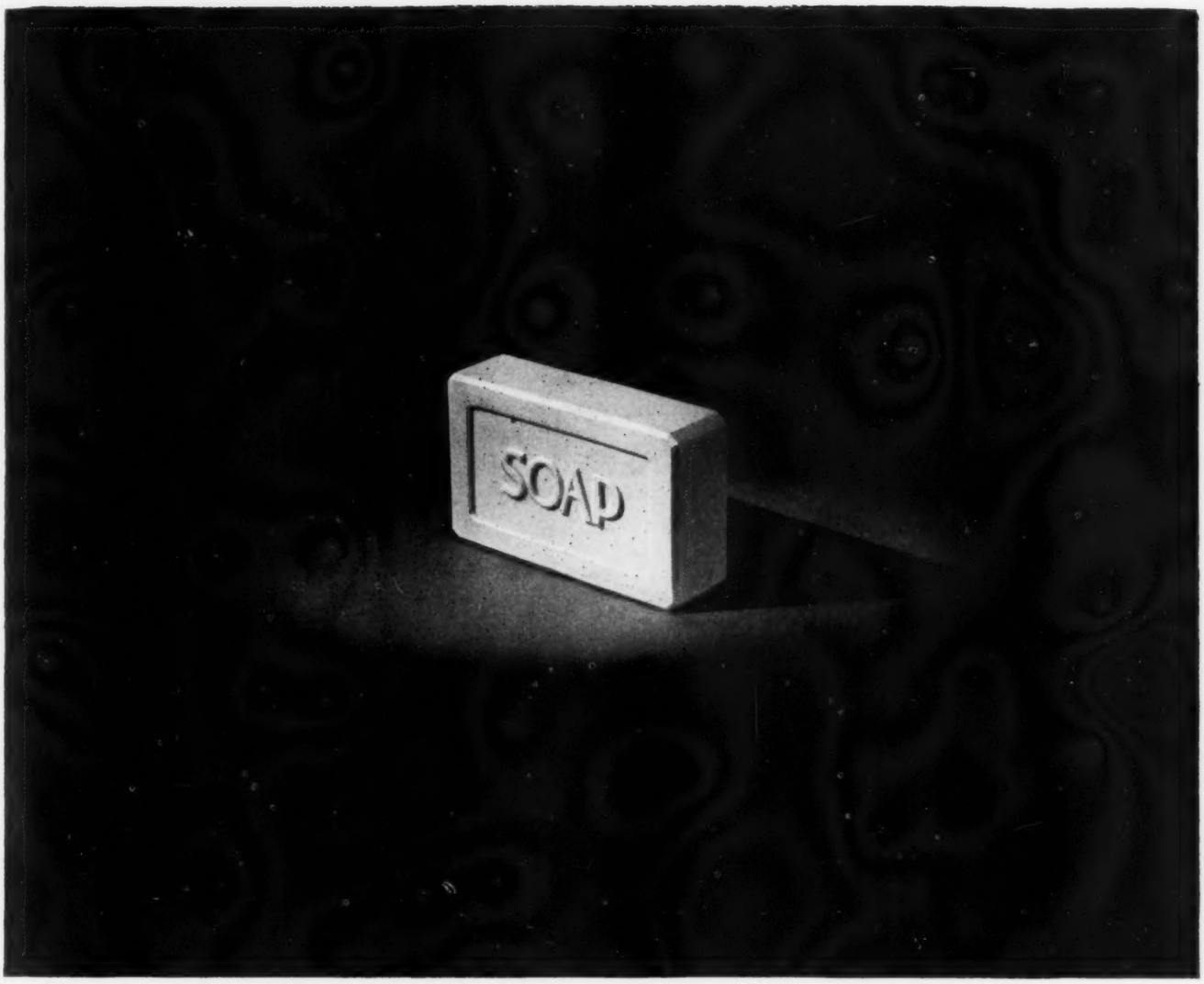
ALEMITE

REG U.S. PAT. OFF.

Industrial **LUBRICATION**

1888 Diversey Parkway, Chicago, Illinois • Belleville, Ontario

Another Product of
STEWART WARNER



DYNAMITE

• There's a lot of potential dynamite where that innocent bar of soap came from. Out of the same vat came glycerin — the stuff from which nitroglycerin, dynamite and cordite are made.

The manufacture of glycerin is an inseparable — and very important — part of the soap industry. In normal times glycerin is a by-product of soap. In times like these, when every extra ounce of gunpowder strikes an extra blow for democracy, the by-product becomes more important than the product.

Michigan Alkali Caustic has many uses, in wartime as well as peacetime. And other Michigan Alkali products are helping America's industries to keep the materials of war moving out of the factory, up to the front lines of freedom.

MICHIGAN ALKALI COMPANY

FORD BUILDING • DETROIT, MICHIGAN

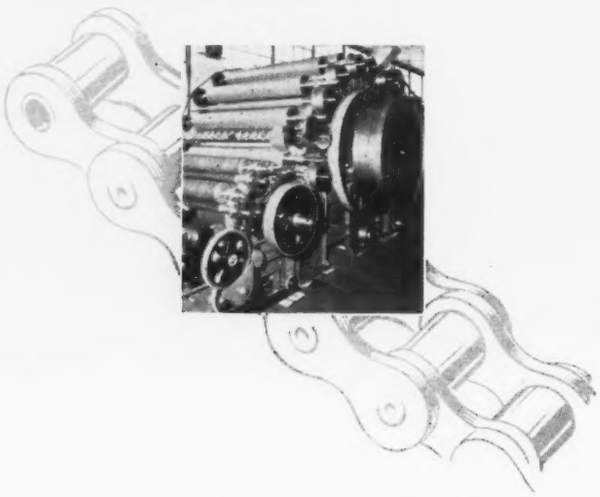
NEW YORK • CHICAGO • CINCINNATI • ST. LOUIS • CHARLOTTE • WYANDOTTE

DISTRIBUTORS IN ALL PRINCIPAL CITIES

SODA ASH • CAUSTIC SODA • CHLORINE • BICARBONATE OF SODA • CALCIUM CARBONATE • CALCIUM CHLORIDE • DRY ICE

HOW to get more from your machines QUICKLY!

You can, and easily, merely by eliminating these three power transmission "bugaboos":



A *Slippage*—a slipping drive never allows peak machine production.

B *Repairs*—machines shut down for drive repairs are dead weights on any production schedule.

C *Power loss*—you deserve as near as possible 100% return on your power investment.

Why use BALDWIN Roller Chain Belts?

PLEASE NOTE

Baldwin roller chain belts transmit power between shafts with nearly 100% efficiency, yet absorb shocks and stand up under conditions of heat, abrasion and corrosion that seriously impair other power transmission media.

● Baldwin roller chain belts are 98.6% efficient on long or short centers. They eliminate slippage; they last longer, they run quietly.

By replacing with Baldwin roller chain belts—a few gear drives here, a few belt drives there—on cards, looms, garnetts, printing machines—you'll gain an immediately noticeable improvement in production.

For further explanation of these advantages, call the Baldwin man. Baldwin Duckworth Division, Chain Belt Company, 346 Plainfield Street, Springfield, Mass.

Positive!

THAT'S **BALDWIN**

ROLLER CHAIN BELTS

Save six ways

WITH "MODINAL" D* FOR SCOURING WOOLEN GOODS

NEVER in history has woolen goods production reached its present peak. Meet demands and assure peak efficiency by using "Modinal" D double strength detergent for scour and dye baths.

- "Modinal" D reduces rinsing time.
- Colder water may be used for rinsing. This saves steam.
- No unpleasant odor will develop – goods will not "yellow" in storage.
- "Modinal" D eliminates blotchy dyeings and improves penetration.
- It sometimes costs less for "Modinal" D than adding more scouring soaps.
- The personal equation in processing is reduced – results are uniform.

Ask one of our technical experts to show you working formulas for various types of woolen goods. Let him help you make any slight adjustments that may be necessary to meet your operating conditions.

* **"MODINAL"** *is the trade-mark used by the Gardinol Corporation to designate a group of its fatty alcohol sulphates.*

GARDINOL CORPORATION, GENERAL OFFICES, WILMINGTON, DEL.

SALES AGENTS: Procter & Gamble, Cincinnati, Ohio · E. I. du Pont de Nemours & Co. (Inc.), Wilmington, Delaware

Some Day-
..RUST" will be a Curiosity!
in the Textile Industry

In many modern plants, it is already "extinct." In others, only wartime restrictions of stainless steels have delayed this transformation program.

One outstanding achievement in steel, which for 10 years has found increasing acceptance in the Textile Industry is IngAclad Stainless-Clad Steel. Here is a material whose contact side gives the same protection afforded by solid stainless metal. Yet, because an 80% backing of mild steel is used in its production, the material cost for this genuine stainless service is brought within reach of all.

Today for VICTORY! — Tomorrow for ECONOMY!

Today our entire production of both IngAclad Stainless-Clad Sheets and Plates, and Ingersoll Solid Stainless Sheets is devoted to essential war needs. If your operations enable you to obtain the necessary priority rating, write us.

May we suggest that you prepare now for improved peacetime production by planning the modernization of old equipment, or the fabrication of new equipment with..

IngAclad Stainless-Clad Steel or Ingersoll Solid Stainless Steel

• • •

The experience of our Sales Engineers is available on your present or post-war problems, without cost or obligation.

INGERSOLL STEEL & DISC DIVISION
BORG-WARNER CORPORATION
310 South Michigan Avenue Chicago, Illinois
Plants: Chicago, Ill.; New Castle, Ind.; Kalamazoo, Mich.

INGACLAD
STAINLESS-CLAD STEEL

"A Borg-Warner Product"

Can your peacetime oils meet wartime needs?
SHELL TEXTILIS OILS
can take it!
"JUST ANY OIL" won't do today. Machines are taking too much of a beating for that. That's why you will find it worthwhile to investigate tough Shell Textilis Oils. They possess excellent lubrication qualities, are NON-GUMMING, HIGHLY ADHESIVE, stay in the bearings . . . give you clean, thorough lubrication. Too, they are readily removed from fabrics during the finishing operations.
Call in your Shell man today for specific information on your particular lubrication needs.
SHELL

Helpful Hints . . .

All-out production of war textiles demands unstinted performance from all your equipment. If you have a Gardner-Denver "RX" Air Compressor operating in your plant, you are in a position to take full advantage of compressed air efficiency. Here are a few helpful hints that will assure you better compressor performance:

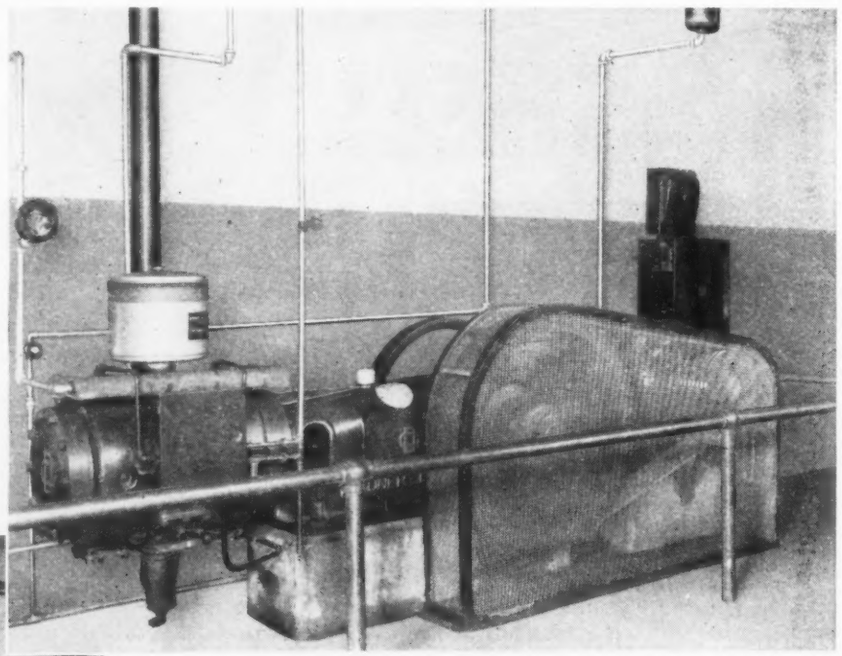
1. Keep crankcase oil reservoir filled to proper level with high-grade engine oil. Change oil every two to four months, depending on service.

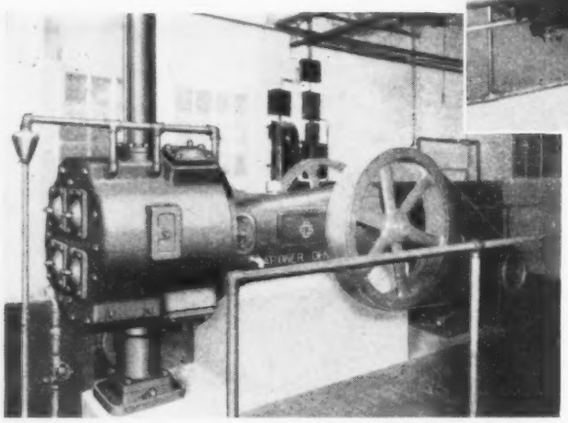
2. Use only best grade of air compressor oil for lubricating compressor cylinders.

3. Clean air intake filter at least once a week.

4. Test safety valves daily to prevent sticking.

5. Drain air line water traps frequently to draw off condensate.





← *Gardner-Denver "RXV" Vacuum Pumps—designed to produce high vacua above 28 inches Hg when required—are especially built for heavy duty, continuous service in lint cleaning, cotton carding, and other uses.*

↑ *The high over-all efficiency of Gardner-Denver "RX" Single-Stage Horizontal Compressors is assured by unrestricted air passages and large valve areas. "Air-Cushioned" valves in these compressors decrease noise and wear—virtually eliminate valve breakage. The capacities range from 89 to 1292 cubic feet displacement per minute.*

For descriptive bulletin on Gardner-Denver "RX" Compressors and "RXV" Vacuum Pumps, write Gardner-Denver Company, Quincy, Illinois; Atlanta, Ga.; Birmingham, Ala.; Boston, Mass.; Hazelton, Pa.; Knoxville, Tenn.; Washington, D. C.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.

GARDNER-DENVER PRODUCTS HELP SPEED VICTORY

GARDNER-DENVER *Since 1859*

WARTIME LIGHTING COSTS REDUCED!

General Electric announces a 12% to 17% reduction in the price of G-E MAZDA FLUORESCENT LAMPS!

Effective September 1, 1942

NEW LOW PRICES ON G-E MAZDA F LAMPS

14-WATT T-12	was 80c	now 70c
15-WATT T-8	was 65c	now 57c
15-WATT T-12	was 80c	now 70c
20-WATT T-12	was 80c	now 70c
30 WATT T-8	was 80c	now 95c
40-WATT T-12	was $1.15	now $2.15
100-WATT T-17	was $2.60	now $2.80

Above prices refer to daylight and 3500° white. Prices also reduced on soft white and colored G-E MAZDA F lamps.

Also reduced! G-E MAZDA H (Mercury) LAMPS

400-WATT T-16 AH1	was $11.00	now $9.50
400-WATT T-16 BH1	was $11.00	now $9.50
3000-WATT T-9½ AH9	was $45.00	now $40.00

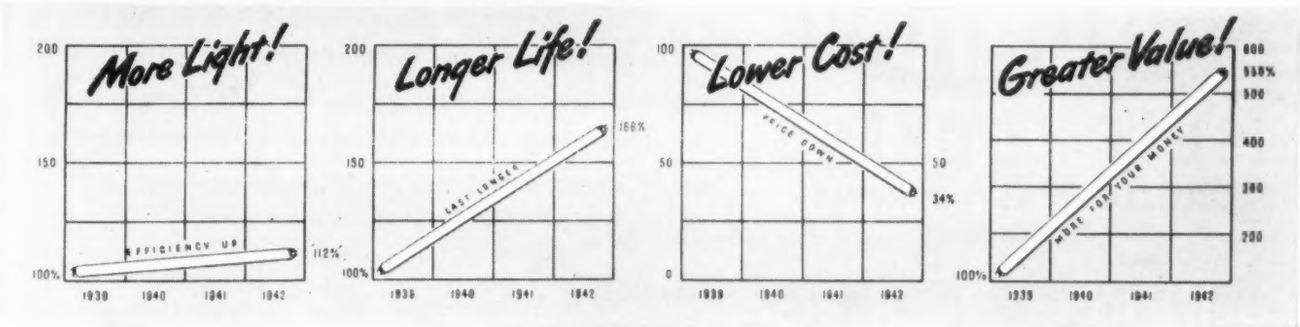
THE SEVENTH REDUCTION IN FOUR YEARS!

NO price reduction, of the many we have been able to make, gave us in General Electric as much genuine satisfaction as this one—made possible at a time when light is being called upon to play a major role in wartime production.

Made in the face of rising cost trends, this reduction is the result of manufacturing economies and technical developments, combined with vastly increased use. It is made in accordance with G-E's policy of passing such savings along to customers.

But lower prices are only half the story. Not only have we been able to reduce prices, we have steadily improved these lamps. They give more light! They last longer! They *stay brighter longer!*

For instance, purchasers of the widely used 40-watt white G-E MAZDA F lamp now pay only 95c instead of the $2.80 they paid in 1939. But we are prouder that this lamp lasts 66% longer and is nearly 12% brighter . . . that it gives you 5½ times more value for your lamp dollar than it did in 1939! (See charts below.)



G-E MAZDA LAMPS

GENERAL ELECTRIC

Reg. U. S. Pat. Off.

Pat's Pending

UNBRAKO

SELF-LOCKING

HOLLOW SET SCREWS
WITH THE

KNURLED POINTS

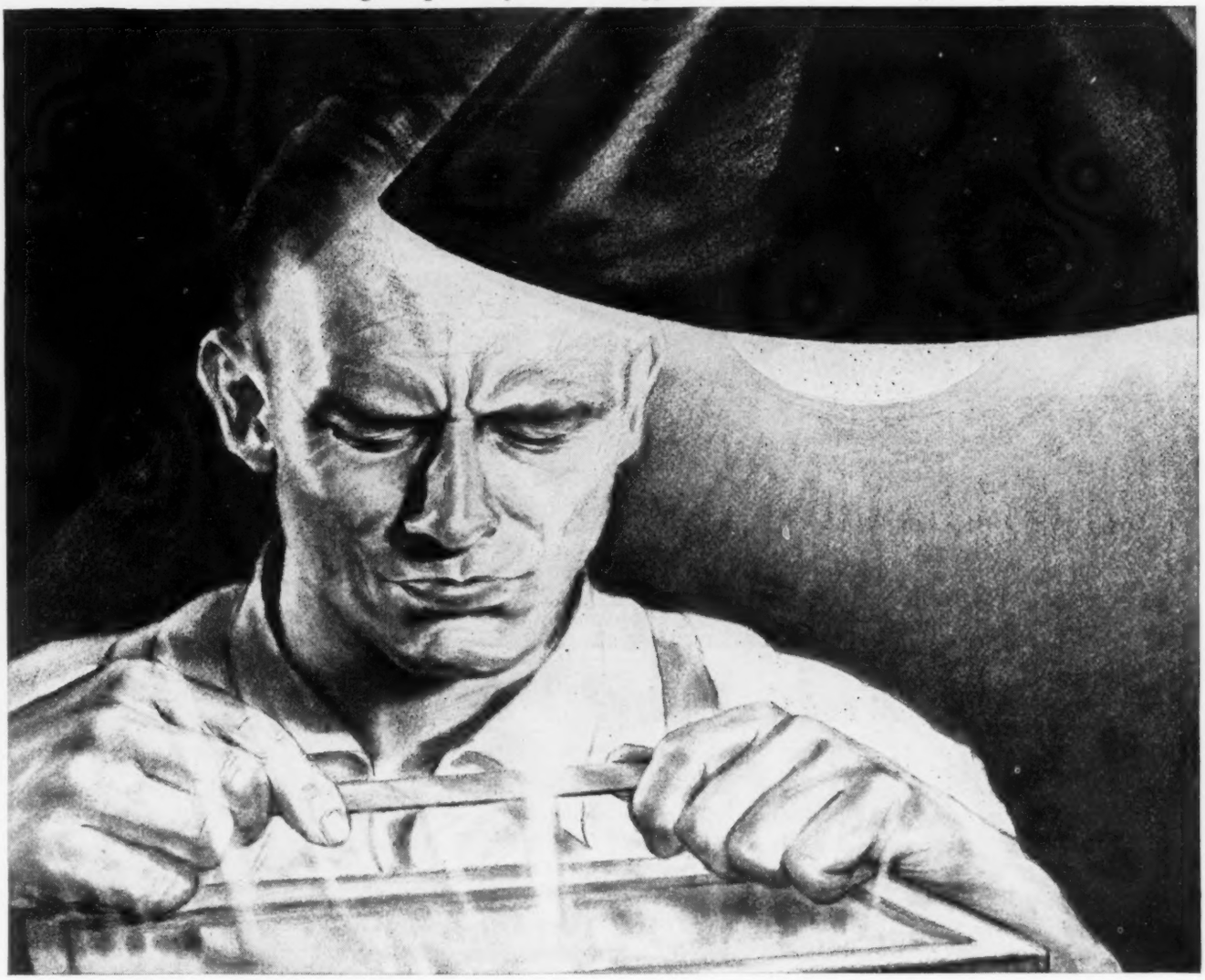
Apply this safeguard in *your* mill without delay. Wherever a set screw is subject to vibration, use an "Unbrako" Self-Locking Hollow Set Screw with the *Knurled* Point. Tightened in the usual way, the *knurled* point "digs in" and holds. Yet it can be backed out with a wrench and used again and again. Sizes from No. 4 to 1 ½" diameter. Deliveries are better than average. Write for Catalog giving complete information.

The KNURLING of Socket Screws originated with "UNBRAKO" years ago.

STANDARD PRESSED STEEL CO.

JENKINTOWN, PENNA., BOX 571 · BRANCHES: BOSTON · DETROIT · INDIANAPOLIS · CHICAGO · ST. LOUIS · SAN FRANCISCO

A MILLER Message inspired by WPB's helpful handbook, "Plant Efficiency."



How many "SQUINTING SAMS" in your plant?

Can your men see clearly and sharply . . . at all times, on all jobs? Does your plant have adequate lighting for fast, precision war production? Don't "light-starve" your workers . . . give them real working *daylight* from a MILLER *Continuous Wireway* Fluorescent Lighting System.

WPB says better lighting brings these benefits . . . "1— Increased production; 2— Better workmanship; 3— Continued production by older employees; 4— Less eyestrain; 5— Reduction in accidents; 6— Better morale; 7— Better housekeeping."

In war plants from coast to coast the MILLER *Continuous Wireway* Fluorescent Lighting System is now delivering such benefits.

MILLER 50 FOOT CANDLER or 100 FOOT CANDLER will provide your plant with fine, man-made *daylight* . . . adequate, productive illumination evenly distributed over every working surface. MILLER TROFFERS will duplicate that performance in your plant offices and drafting room.

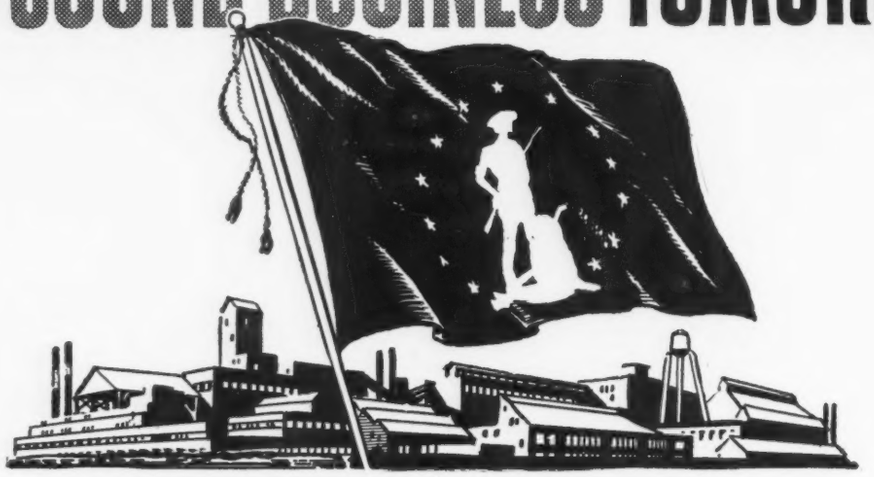
MILLER, by virtue of almost 100 years of lighting experience, working with all types of light sources . . . filament, mercury vapor and fluorescent . . . can give you exactly the lighting equipment you need today, engineered to the "seeing" tasks of your kind of business, and constructed to effect savings in critical materials in line with WPB requirements.

A MILLER field engineer (located near you) is available to assist you in the planning of the proper lighting layout for your plant and in every other way possible. For prompt action, write or wire us today.

BUY U. S. WAR BONDS

MILLER
50 FOOT CANDLER
100 FOOT CANDLER
MILLER TROFFERS
Continuous Wireway Fluorescent Lighting Systems
THE MILLER COMPANY
MERIDEN, CONN.
Pioneers in Good Lighting Since 1844
• MILLER offers a complete line of filament and fluorescent lighting equipment.

FOR VICTORY TODAY AND SOUND BUSINESS TOMORROW



Get This Flag Flying Now!

This War Savings Flag which flies today over companies, large and small, all across the land means *business.* It means, first, that 10% of the company's gross pay roll is being invested in War Bonds by the workers voluntarily.

It also means that the employees of all these companies are doing their part for Victory . . . by helping to buy the guns, tanks, and planes that America and her allies *must* have to win.

It means that billions of dollars are being diverted from "bidding" for the constantly shrinking stock of goods available, thus putting a brake on inflation. And it means that billions of dollars will be held in readiness for post-war readjustment.

Think what 10% of the national income, saved in War Bonds now, month after month, can buy when the war ends!

For Victory today . . . and prosperity *tomorrow,* keep the War Bond Pay-roll Savings Plan rolling in *your* firm. Get that flag flying now! Your State War Savings Staff Administrator will gladly explain how you may do so.

If your firm has not already installed the Payroll Savings Plan, *now is the time to do so.* For full details, plus samples of result-getting literature and promotional helps, write or wire: War Savings Staff, Section F, Treasury Department, 709 Twelfth Street NW., Washington, D. C.

Save With

War Savings Bonds

This Space Is a Contribution to America's All-Out War Program by

TEXTILE WORLD

"The boys here call it the *FOURTH SHIFT!*"

. . . and you do it with

FLEUR-O-LIERS

When you define fluorescent lighting with FLEUR-O-LIERS in terms of better, faster seeing—more accurate work—spoilage reduced—production speeded and manhours saved—the phrase "fourth shift" has a real significance.

Fixtures bearing this FLEUR-O-LIER label assure you maximum use of your lamps—plus electrical and mechanical dependability. That's important these days when every minute counts—and equipment *must* stand up!

And here's the reason. Though nearly 50 independent fixture manufacturers make FLEUR-O-LIERS, *they all make them* to 50 definite specifications set up by the makers of MAZDA Lamps. And FLEUR-O-LIERS meet these specifications as tested and certified by impartial Electrical Testing Laboratories.

A vital tool in wartime production, fluorescent fixtures now require a suitable WPB priority rating. Any of the FLEUR-O-LIER Manufacturers, your electrical contractor, wholesaler or electric service company will be glad to work with you.

DEPENDABILITY COUNTS!

See why you get it in FLEUR-O-LIERS

- **Certified ballasts and starters**... assuring balanced, economical operation—most light from your lamps—high power factor (over 85%).
- **Durability and Safety**
- **Ease of maintenance**
- **Maximum light output**
- **Flicker correction** (on two-lamp circuits).
- **Correct ventilation**
- **Every unit** carries the FLEUR-O-LIER Manufacturers' Guarantee.

FLEUR-O-LIERS

CERTIFIED FIXTURES FOR FLUORESCENT LIGHTING

Participation in the FLEUR-O-LIER MANUFACTURERS' program is open to any manufacturer who complies with FLEUR-O-LIER requirements

Fleur-O-Lier Manufacturers, 2120-9 Keith Bldg., Cleveland, O.

Please send me FREE new booklet "50 Standards for Satisfaction," together with list of Fleur-O-Lier manufacturers.

Name _____

Address _____

City _____ State _____

"WHAT! YOU DON'T

KNOW WHO

Fortunately, not all bosses are as explosive as the old boy in the corner.

But not knowing "who makes it," you will admit, is *poor business* in any man's language. It costs money. It wastes time. Especially as, in the case of the textile mill man, the answer is so readily available.

The answers to this question—and many others—are contained in the Textile World Yearbook and Catalog; and there's a copy of this handy reference volume in every textile mill in the country.

This year, more than ever before, Textile World Yearbook and Catalog will be a *must* item for textile mill men. Because this year with the national defense program increasing the demand for textiles for military use, for consumer use and for industrial use, mills will be busier than ever. Buying for maintenance, for replacement, for modernization will be stepped up. Under these conditions time becomes doubly valuable.

Time lost in groping for product data will be time wasted during a period when a short delay in placing orders for equipment and supplies may mean a serious disruption of production schedules in your mill.

That's why we say: *"Use* your copy of Textile World Yearbook and Catalog." Use it every time a "who makes it" question comes up in the day's work. Textile World Yearbook and Catalog is a time saver, a trouble saver and a money saver for every alert mill man. The more you use your copy, the more valuable it becomes.

ATTENTION MANUFACTURERS of Equipment and Supplies!

Before you start work on your 1942 catalog, find out how you can save time and money in the arduous task of compiling and distributing your product catalog for the textile industry. A new plan of catalog production and distribution, enables you to secure individual catalogs for immediate mailing to your customers and live prospects, followed by blanket distribution of your "pre-filed" catalog later in the year, with last minute revision service.

Get *double value* PLUS from your catalog dollar in 1942. A Textile World representative will be glad to explain how this new catalog plan works.

Do You Know Who Makes–

Feeler Motions?

See page 386 of the 1941 Textile World Yearbook and Catalog.

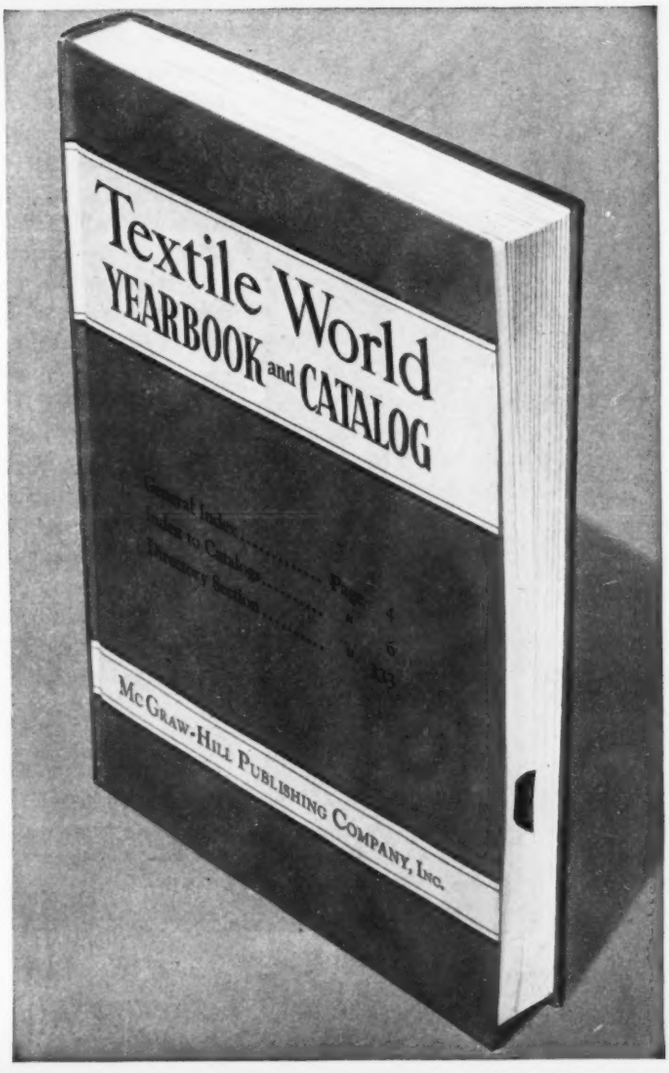
Thread Waxing Machines?–

See page 404 of the 1941 Textile World Yearbook and Catalog.

pH Indicators?–

See page 393 of the 1941 Textile World Yearbook and Catalog.

Tomorrow, perhaps, you'll need to know about one of these products. Some of them may never come up in the operation of your mill. But whatever the question, "look it up first" in the Textile World Yearbook and Catalog which, in addition to more than 200 pages of helpful catalog data supplied by scores of the country's leading companies providing machinery, equipment, supplies, chemicals and services to the textile mills of the country; also contains a wealth of mill reference data compiled for your convenience by the editors of Textile World.



Textile World Yearbook and Catalog

A Unit of the McGraw-Hill Reference Service

330 West 42nd Street **New York, N. Y.**

Don't OVERLOAD YOUR HOIST

Although **WRIGHT HOIST** are built with load-carrying factors much in excess of their rated capacities, like many other well-made pieces of mechanical equipment built for specific duty, they should not be overloaded. Overloading is dangerous—to men, materials, machinery and steady production. Abuse to machinery, today, is akin to sabotage.

WATCH THE BOTTOM HOOK

• Wright load hooks are drop-forged from special steel which, when subjected to excessive overloading, gives visible warning by opening slowly. When the bottom hook has started to open, look to the top hook, too, for while it is stronger than the bottom hook, it also may be reaching a danger point.

WATCH THE LOAD CHAIN

• **WRIGHT HOIST** load chains are electrically welded from special analysis steel, exceptionally high in tensile strength and elastic limit. Chains that are excessively overloaded will stretch out of pitch, thus preventing proper fit with precision load wheel pockets. This results in destructive wear to both chain and load wheel. Keep your chains well-lubricated for long life.

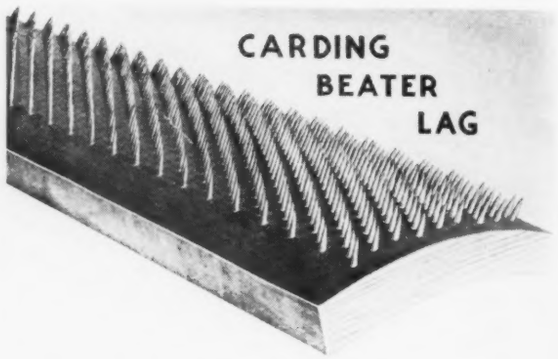
Victory demands all out efficiency in production. Victory demands speed. Victory demands steel. Abuse of machinery wastes all three. Take proper care of your **WRIGHT HOIST** so that it lasts. You can find the name of your nearest Wright distributor in the telephone book.

WRIGHT MANUFACTURING DIVISION
York, Pa., Chicago, San Francisco, New York

In Business for Your Safety

AMERICAN CHAIN & CABLE COMPANY, Inc.
BRIDGEPORT • CONNECTICUT

PINS and LAGS



We offer

3 to 4 weeks delivery

on any properly rated priority business on any size or shaped pins or lags ever made.

We will be glad to quote you on re-pinning your lags.

We guarantee and are willing to stand behind the quality of material and workmanship of anything we produce.

Our guarantee is based on 72 years of research, development and experience devoted exclusively to the manufacture of needle pointed goods.

Now Under New Management

J. C. BENNETT, *President*
R. N. NELSON, *Sales Mgr.*
TOM WAINMAN, *Engineer*
E. A. MORSE, *Production*

• *Your inquiries will receive prompt and courteous attention.*

We are experienced manufacturers of needle pointed goods and many specialties made to order.

JUTE and FLAX CARDS PINS
COTTON WASTE PICKER PINS
RAG or SHODDY PICKER TEETH
MIXING PICKER TEETH and PINS
WASTE MACHINE PINS
DOFFER TEETH
CORDAGE PINS
TENTER PINS
FALLER BAR PINS
JENNY BAR PINS

GILL PINS
HACKLE PINS
COMB PINS
FALLER BARS—PLAIN or PINNED
HECKLES FOR MACHINE or HAND
GILLS PINNED
TENTER PLATES PINNED
WET and DRY COMBS
FOR THE BRUSH TRADE

LAGS—GILLS—TENTER PLATES
ROLLS—FALLER BARS
IRON RIVETS
PLAIN or STEEL CLAD LAGS FOR USE IN—
JUTE and FLAX CARDS
COTTON WASTE PICKERS
CARDING BEATERS
RAG or SHODDY PICKERS
WORKER ROLLERS—WOOD or STEEL
STRIPPER ROLLERS—WOOD or STEEL

LUMPERS
WIPING WASTE MACHINES
PINNED FEEDER SLATS
PLAIN SLATS
DOFFER PLATES
WASTE MACHINE—
DOFFER CYLINDERS—STEEL
FEED ROLL LUGS
PINNED FEED ROLLERS

WILLIAM CRABB & CO. **301-3rd Ave., Newark, N. J.**

Grip a Bending V-Belt

You'll See *How* the CONCAVE SIDE

Saves Belts-Saves Rubber-Saves Power!

Bend *any* V-belt and you can feel it change shape! The top is under tension and grows narrower. The bottom is under pressure—therefore it widens. These two conflicting stresses force a straight-sided V-belt to *bulge* in the sheave groove. (See figure 1 on the right.) This bulging causes uneven wear on the sides of the belt—*shorter life!*

Now look at figure 2. There you see what happens if the V-belt is built with the patented Concave side. The stresses of bending merely straighten the Concave side—making it exactly fit the sheave groove. This means uniform wear and, therefore, *longer life*—a saving in belts, a saving in the Nation's rubber supply. Again, the full side of the belt *uniformly* grips the pulley—carries heavier loads without slipping—another saving of belts and a saving in power too!

Only belts built by Gates are built with the Concave side, a Gates patent.

What Happens When a V-Belt Bends

FIG. 1

FIG. 2

THE GATES RUBBER COMPANY

Engineering Offices and Stocks in All Large Industrial Centers

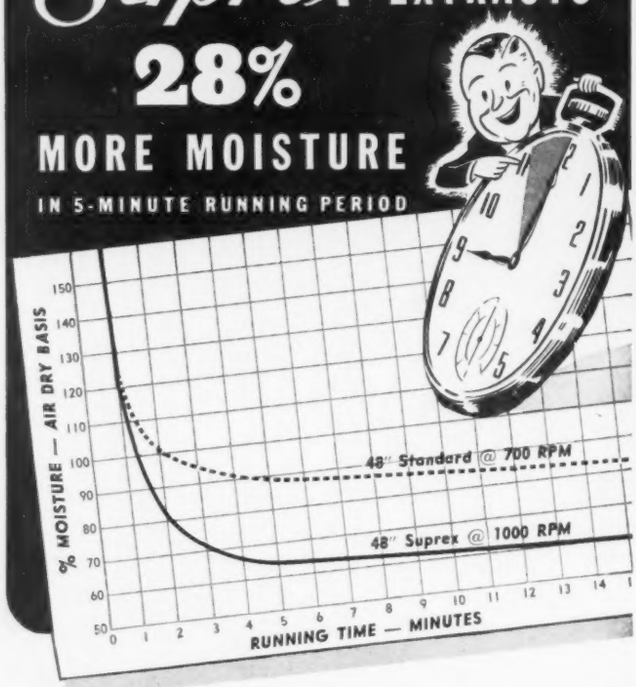
GATES VULCO ROPE DRIVES

Chicago, Ill. 549 West Washington
Dallas, Tex. 2213 Griffin Street
New York City 215-219 Fourth Avenue
Birmingham, Ala. 405 Liberty National Life Bldg
Los Angeles, Cal. 2240 East Washington Blvd
Charlotte, N. Carolina 507 Builders' Bldg.
Greenville, S. Carolina 201 Woodside Bldg. Annex
Atlanta, Georgia 738 C. & S. Natl. Bk. Bldg.

CASE STUDY SHOWS

TOLHURST *Suprex* EXTRACTS 28% MORE MOISTURE

IN 5-MINUTE RUNNING PERIOD



HERE'S PROOF! A 48" "Suprex" Extractor operating at 1000 R.P.M. on cotton underwear tubing, reduced moisture content in the tubing to **65%** in **5** minutes.

A standard 48" extractor operating at 700 R.P.M. on identical material was able to reduce the moisture content only to **90%** in **5** minutes.

Even after **30** minutes operation, the standard extractor could not reduce moisture content below **82%**.

TESTS like this, on textiles with various characteristics as to fibre, stage of conversion and weave, have proved that TOLHURST Suprex is the fastest extractor of its type on the market. These time savings are achieved by the higher speeds possible with TOLHURST Suprex. Let us prove these claims on your materials. FREE Bulletin containing complete details on request.

TOLHURST
CENTRIFUGALS
Division of American Machine and Metals, Inc.
EAST MOLINE, ILLINOIS

THE SEAL OF QUALITY AND SERVICE SINCE 1857

US

HI, THERE! GIVE US PRODUCTION!

Uncle Sam's order! And it means that now more than ever you need the accuracy, uniformity, and high-speed efficiency of U S bobbins, shuttles, cones and spools.

Call on our experience to help keep things humming. For 85 years we've been digging to discover better ways!

Let US help you

SATISFACTION GUARANTEED

US BOBBIN & SHUTTLE CO

LAWRENCE, MASS.

PROVIDENCE, R. I. GREENVILLE, S. C.
JOHNSON CITY, TENN. CHARLOTTE, N. C.

CHICAGO AGENT: Albert R. Breen, 20 E. Jackson Blvd.
CANADIAN AGENT: W. J. Westaway, Montreal
ALABAMA AGENT: Young & Vann Supply Co., Birmingham

Keep equipment in good operating condition by proper repair and maintenance

Some of your Monel dyeing and finishing equipment has doubtless already given years of service. Take care of it . . . and it will continue to take care of you.

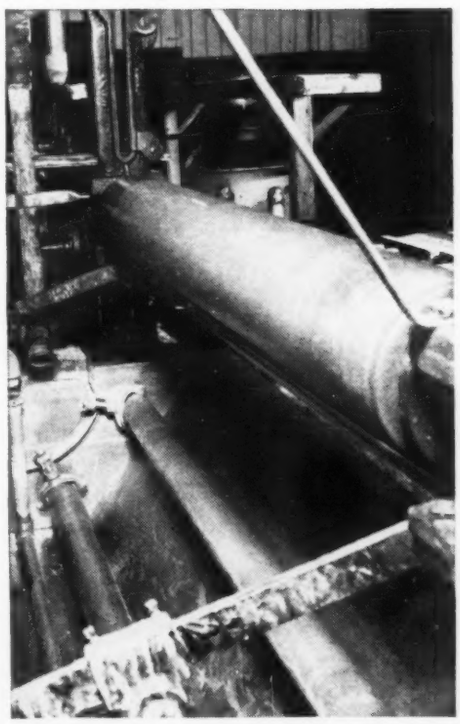
This means giving equipment *better than average* attention. Small and seemingly unimportant damage should *no longer* be neglected. It can usually be repaired easily and quickly . . . and minor repairs today may forestall major loss and delay tomorrow.

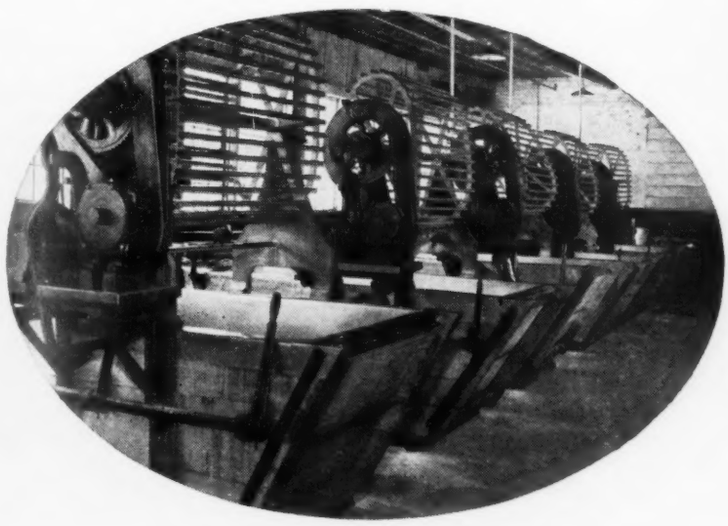
Examples of the kind of repairs to take care of include:

1. REPAIR AND TIGHTEN loosened tie-rods, outlet plugs and fastenings of wet processing equipment such as dye tanks, bleach tanks, kiers, etc. In lined tanks, if supporting frame and body gets out of shape, harm is apt to occur to lining and its joints, which are not built to support the load alone.

2. SAVE SOUND SECTIONS of eroded, perforated steam pipes for use as shorter pipe sections and nipples.

3. AVOID DESTRUCTIVE IMPACT on linings and tanks caused by the steam hammer of perforated pipes. This may be corrected by raising piping.





Your Monel equipment is good for years of service. Keep it in repair . . . and you keep it on the job of uninterrupted production for the war effort.

THE INTERNATIONAL NICKEL COMPANY, INC.

67 Wall Street New York, N. Y.

"Monel" and other trade-marks which have an asterisk associated with them are trade-marks of The International Nickel Company, Inc.

★ ★ ★ ★ ★ **INCO NICKEL ALLOYS** ★ ★ ★ ★ ★

MONEL* • "K" MONEL* • "S" MONEL* • "R" MONEL* • "KR" MONEL* • INCONEL* • "Z" NICKEL* • NICKEL

Sheet . . . Strip . . . Rod . . . Tubing . . . Wire . . . Castings

Seems like *everybody* "came from Missouri"

—*especially textile manufacturers,* when the talk turns to starches or gums . . . But Corn Products Sales Company *welcome* this "show me" attitude. For the uniformity, cleanliness and consistent high quality of Corn Products Sales Company starches and gums put them way "out in front".

Many successful textile manufacturers use the services of Corn Products technicians, who are always glad to help with WARP SIZING, FINISHING or other textile problems.

CORN PRODUCTS SALES COMPANY
17 BATTERY PLACE, NEW YORK, N. Y.

Textile Offices: Greenville, S. C. • Greensboro, N. C. • Atlanta, Ga.
Spartanburg, S. C. • Birmingham, Ala. • Boston, Mass.

MERSOLITE-8*
Phenyl Mercuric Acetate

*Reg. U. S. Pat. Office

A BERK PRODUCT
BERK

A Powerful MILDEWPROOFING Agent for TEXTILES

Recent technical publications show Phenyl Mercuric Acetate to be a POWERFUL MILDEWPROOFING AGENT for textiles. This chemical, new to commerce, has been made available at commercially practical prices by America's largest producer of purified mercury and mercury compounds. Your inquiries will receive prompt attention.

F. W. BERK & CO. INC.
WOOD-RIDGE DIVISION
Wood-Ridge, New Jersey

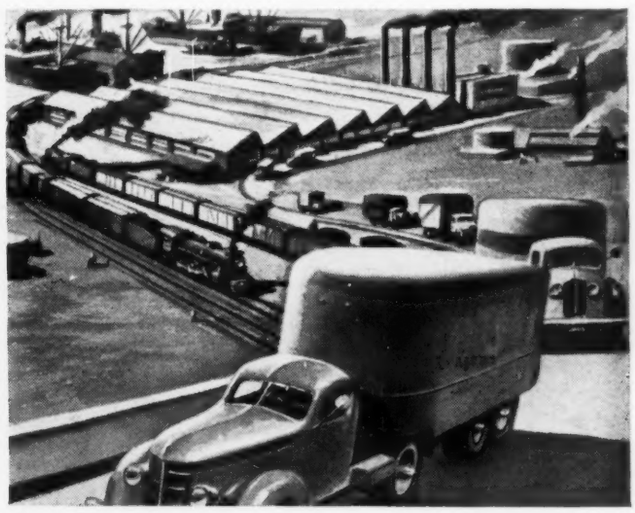
1. WITH DEFENSE INDUSTRIES ON THE OFFENSIVE, plant equipment shoulders the responsibility to take punishment and keep going. Lead lined tanks, for example, must not only fight off the corrosive attack of industrial acids but also come out on top of their *mechanical* enemies—the stresses that cause buckling, creeping, cracking and failure. In such tough spots, Tellurium Lead has shown important advantages . . .

2. IT STRENGTHENS UNDER STRESS. Yes, Tellurium Lead actually "work-hardens." Sure it's tough to start with. But hammer it . . . roll it . . . bend it . . . stretch it . . . and it gets *tougher!* That means extra resistance to cracking at turnover points and joints, to vibration, to fracture from repeated temperature changes, and to buckling and creeping . . .

Industrial Tanks have to Win Battles, Too!

3. BUT THAT'S NOT ALL. Tellurium Lead has extra "acid-fight," too . . . keeps sulphuric and other sharp-clawed acids under control. A high temperature lead, it resists their corrosive attack even at temperatures approaching its melting point. Result: In many installations, it has meant longer life and fewer shutdowns for tanks, coils and pipe lines . . .

4. NO WONDER MUNITIONS FACTORIES, metal plants, oil refineries and textile mills rely on Tellurium Lead equipment to help prevent "time-out" in vital acid processes. This new alloy combines the well-known properties of St. Joe chemical lead with the new advantages gained from Tellurium. Fabricated in sheets, pipes and coils, it is helping industry go over the top in the war production drive.



NATIONAL LEAD COMPANY—New York, Baltimore, Buffalo, Chicago, Cleveland, Cincinnati, St. Louis; National-Boston Lead Co., Boston; John T. Lewis & Bros. Co., Philadelphia; National Lead & Oil Co. of Penna., Pittsburgh; Georgia Lead Works, Atlanta; American Lead Corp., Indianapolis; Master Metals, Inc., Cleveland; The Canada Metal Co., Ltd., Toronto, Montreal, Winnipeg, Vancouver.

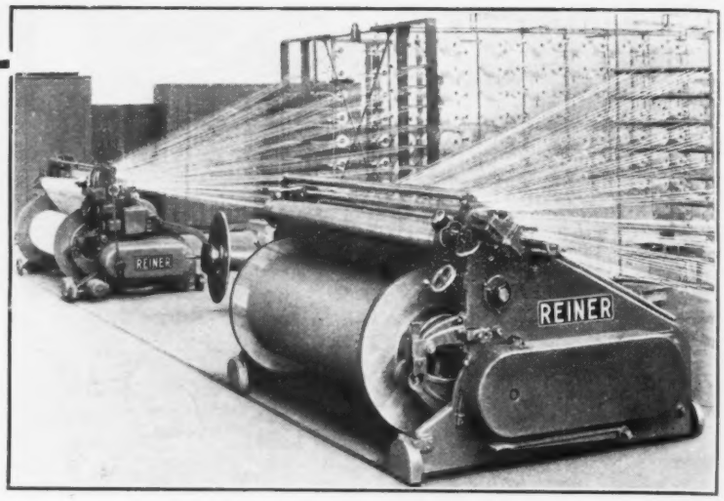
TELLURIUM LEAD

• A NATIONAL LEAD COMPANY PRODUCT •

APPROVED BY EXPERTS

THE NEW REINER HIGH-SPEED WARPER AND CREEL

for beaming Rayon, Spun Rayon, Wool, Worsted and Cotton



DUE to direct beam drive, an entirely new principle, the Reiner High-Speed Warper is the most advanced in the market.

Warping speed control automatically adjusted without clutch or mechanical drives. Stepless speed range from 100 to 1000 yards per minute. Slow sensitive starting speed, irrespective of operating speed desired.

These and many other new features guarantee the most efficient and economical equipment for the highest quality product. In converting to cotton duck Reiner machines lower costs and speed up production.

Write for full information regarding this and all other REINER Thread Tensions, single and magazine high speed Creels and allied equipment. Kindly request — without obligation—agent's visit and further technical details.

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RING TRAVELERS AND DARY RING REPRESENTATIVES

have much in common. Both give you superior service . . . both cooperate to answer your spinning problems . . . both represent years of experience in High Speed Traveler manufacuring.

Put them both to work on your spinning problems . . . NOW—TODAY.

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The Atlantic Curtain Company, Wellfleet, Mass., reports that for the past twelve years their CAMACHINE 24-2 has been slitting 21,000 to 22,000 yards of curtain material daily. The slit rolls, besides being converted at low cost, are compact and convenient for subsequent handling.

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Slitting and Roll-Winding Machine Headquarters

CAMERON MACHINE COMPANY
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Call Scully for

NATIONAL EMERGENCY ALLOY STEELS

TO save critical materials such as nickel and chromium, "National Emergency Alloy Steels" have been developed as substitutes for the old style alloy steels. These new alloy steels cover a wide range of properties and were especially designed to meet present conditions. Many of them are actually outperforming the steels previously used.

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Do you lack steel to complete a rush war job? Is your production in danger of being slowed down or stopped for want of some piece of steel or steel product? Then call the nearest Scully warehouse. Many such calls have kept wheels turning. If we don't have what you need, you can be sure that we'll do everything possible to help you get it.

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Distributors of Steel and Steel Products

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"DIAMOND FINISH"
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When you install New DIAMOND FINISH rings, you GET what you counted on: the increased production that comes from super-smooth interaction of ring and traveler. These famous rings have the finer polish that means extra easy starting, and the even hardness that means extra long life.

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THE IDEAL MARKING CRAYON
for all textiles

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Cotton Yarn and Warps . . Single or Ply . . White or Colored . . Carded . . Combed

Novelty yarns—of cotton, worsted, wool, mohair, rayon—in all fashionable combinations and effects and in many original effects. Write for samples.

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MAKE STRONGER YARN
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WAYNE MFG. CO. HONESDALE PENN.

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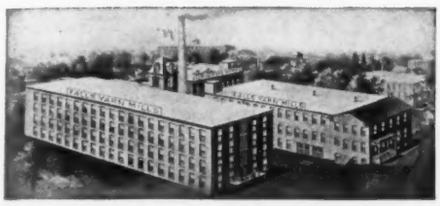
Incorporated 1904



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Rayon and Nylon Yarns
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Page ads in October issues of *Better Homes and Gardens* and *House and Garden* will feature this basic selling appeal for you in
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the new *basic* selling appeal for Cottons, featured every month in the national campaign of 12,000,000 cotton farmers and the American cotton industry.

National Cotton Council of America
Cotton-Textile Institute

More Clean Silver From Cards

Is assured, when you stop using oil that leaks from bearings to soak card clothing and stain stock.

7 out of 10 mills get highest production of clean silver and safeguard card clothing by using drip-less, waste-less NON-FLUID OIL. Lubricant cost is less too: NON-FLUID OIL lasts 3 to 5 times longer.

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***Main Office:* 292 Madison Ave., New York, N. Y.**
Southern Agent, Falls L. Thomason, Charlotte, N. C.

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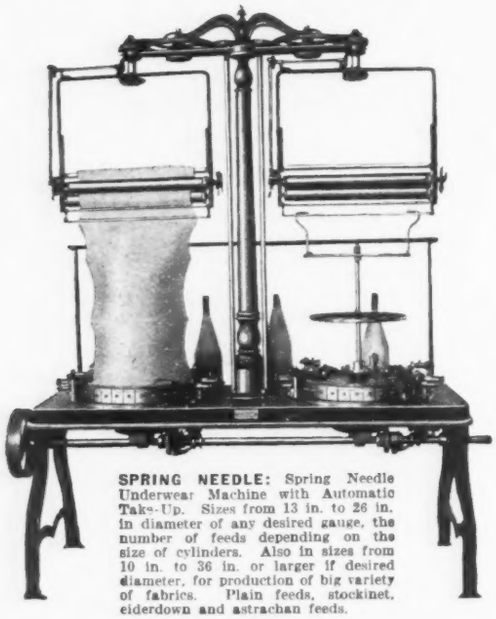
TRADE MARK REGISTERED
NON-FLUID OIL
IN U.S. PAT. OFFICE & FOREIGN COUNTRIES
MODERN TEXTILE LUBRICANT

Better Lubrication at Less Cost per Month

CRANE

KNITTING MACHINES

meet the need for Speed—
for Quality and Low Cost



SPRING NEEDLE: Spring Needle Underwear Machine with Automatic Take-Up. Sizes from 13 in. to 26 in. in diameter of any desired gauge, the number of feeds depending on the size of cylinders. Also in sizes from 10 in. to 36 in. or larger if desired diameter, for production of big variety of fabrics. Plain feeds, stockinet, eiderdown and astrachan feeds.

CRANE Knitting Machines meet the demands of rapidly changing patterns and styles. Their middle name is *versatility* . . . plus smooth, fast running operation that eliminates expensive stops. Among their exclusive features are Patented hardened Wing Burr Wheels and patented Thread Stop Motion. There's many a Knitting Mill in which batteries of Cranes are the mainstay of production.

Let us tell you why —and how . . . just **WRITE**

CRANE Improved Automatic
3 Colored

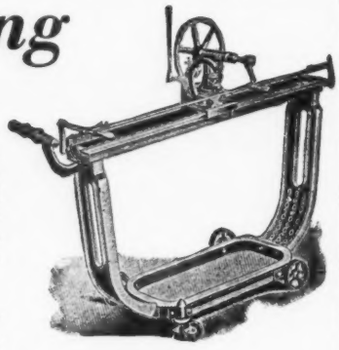
Improved Automatic 3 Colored Plain Stripes. Made in sizes from 7⅝ in. to 20⅝ in. inclusive, of any desired gauge. Measurements are back to back of cylinder needles. Knit fabrics for bathing suits, theatricals, athletic goods. Crawford stop motion applied when requested.

1870 **CRANE** 1942

MANUFACTURING CO.
LAKEPORT, N. H.

Spring Latch Needle
KNITTING MACHINERY

Perfect Seams for Finishing



EVEN when operated by the lowest paid help, the Dinsmore No. 1 Hand Power Portable Railway sewing machine provides faultless seams.

This machine does its work anywhere, being easily moved about at will. It is an efficient practical means of joining the ends of cloth for its passage through such finishing operations as shearing, dyeing, printing, etc.

These machines will saw wet or dry, thick or thin goods, and are built in different lengths for any width of cloth.

The seam can be sewed very near the edge and is easily removable. *The edges come out all even.* Write for complete catalog.

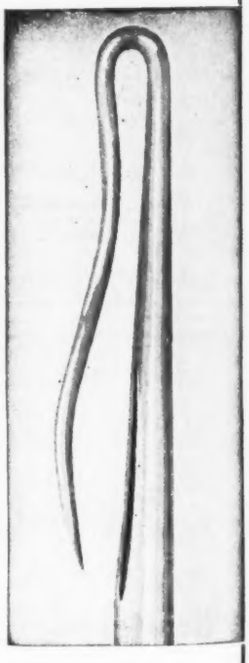
DINSMORE MFG. CO.

No. 1 — See us in TEXTILE YEARBOOK and CONVENTION CATALOGS — SALEM, MASS.

CHARLES COOPER CO., INC.
Bennington, Vermont

Manufacturers of
Quality LATCH and SPRING-BEARD

NEEDLES



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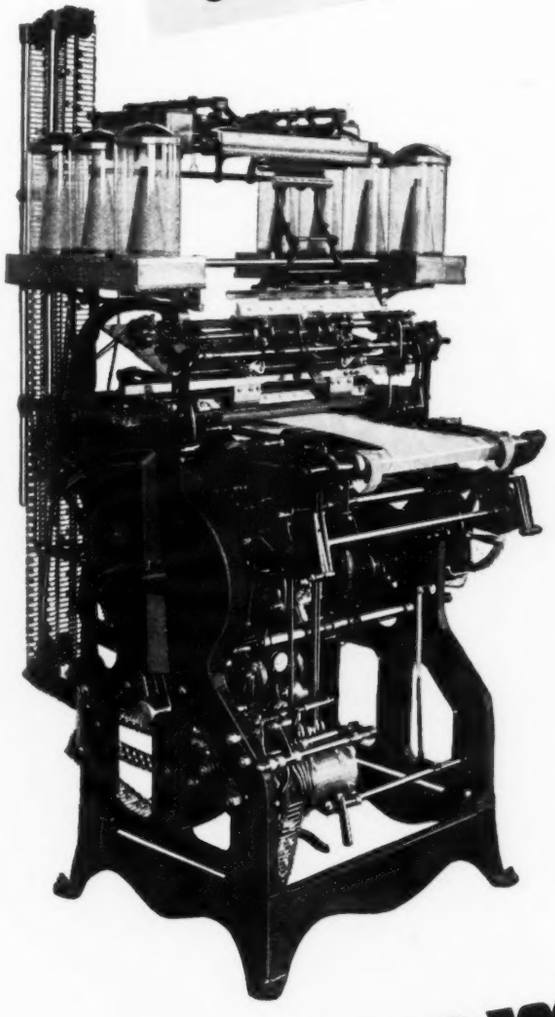
Manufacturers of THE FAMOUS COOPER CIRCULAR
SPRING-NEEDLE RIB KNITTING MACHINES

US calling You!!

for all your Scrap Iron, Steel and other Metals NOW

Fifty percent of every tank, ship and gun is made of scrap iron and steel. These and all other metals are vitally needed. It's YOUR job. Collect your own, help others collect their scrap materials. Sell to nearest junk dealer or give to some charity agency, or take it yourself to the nearest collection point. Complete information from your local

SALVAGE COMMITTEE



The War Work we are doing is gradually crowding out regular lines so that we are reduced to only limited production on the

WILDMAN

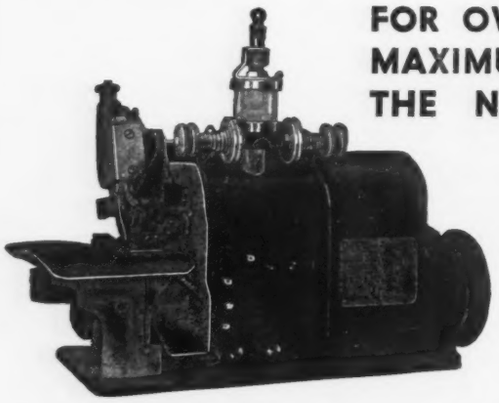
Single-Head, Single-Unit, Full-Fashioned Hosiery

MACHINE

Every one of these machines now in service is living up to the highest demand of today's economy—saving precious production minutes by knitting the entire stocking in one continuous operation, perfect from top to toe. No stops, no slowing down, no bad matching of leggers and footers, etc. Complete information on request.

WILDMAN MFG. CO., NORRISTOWN, PA.

Established 1838 **MERROW** **Incorporated 1894**



FOR OVERSEAMING AND OVEREDGING WITH MAXIMUM EFFICIENCY — MODERNIZE WITH THE NEW MERROW CLASS A MACHINES

The result of several generations of specialized effort in the industrial sewing machine field—combining quality production with high speed and low operating cost to a greater degree than ever before.

WRITE FOR DETAILS AND LET US DEMONSTRATE THESE MACHINES ON YOUR OWN FABRICS.

ALSO PLAIN CROCHET AND SHELL STITCH MODELS FOR ORNAMENTAL EDGE FINISHING AND CLASS 60 MACHINES FOR BUTT SEAMING

200 VARIETIES FOR 200 PURPOSES

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Machine and Hand Knitting

Yarns

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BATHING SUITS
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Complete color assortments

American Woolen Company

225 Fourth Avenue New York

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CIRCULAR SPRING NEEDLE

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FOR PRODUCING

UNDERWEAR	OVERCOATS
SWEATERS	TERRY CLOTH
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KNITTING MACHINES

FOR PRODUCING

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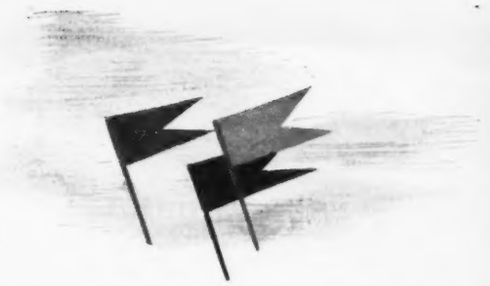

. . . Scholler Products play an important part, because they help the mills get the very utmost out of every Fibre, regardless of its nature . . . Alluring, Lasting Beauty, Wearability, Spot and Snag Resistance, etc. Scholler Products have been recognized as a standard of Quality ever since we started in business, over 35 years ago.

Constant improvement in facilities and research, plus familiarity with the Consumers' requirements have always kept us abreast of the times.

Ask a Scholler Specialist to call—there's no obligation.

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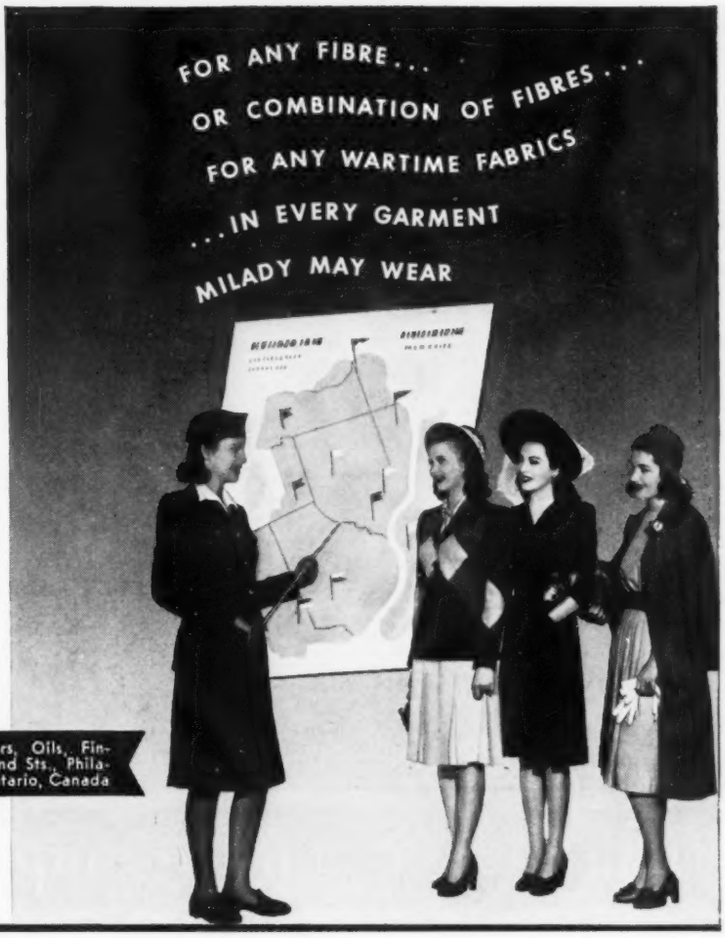

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FILLING WINDERS

Produce Filling of maximum yardage in Cop, Butt and Bobbin form for plain or automatic looms at minimum operating cost and maintenance.

Send us a small supply of your yarn for Test-Wind Report and Catalog.

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EST. 1874

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For Circular, Full Fashioned, Tricot and Milanese Knitting Frames, also Narrowing, Stand, Transfer Points and Welt Hooks for Full Fashioned Machines: Slides, Sinkers, Jacks, Guides or Flat Eyes, Sley and Milanese Points, Transfer Points or Quills, etc.

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NEW BRUNSWICK NEW JERSEY

Acme Products

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Speak for themselves

Up-To-Date Machines

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1. Used in place of soap for fulling, it eliminates the lengthy soap boiling operation.
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3. Permitting the use of stone cold soap, it prevents the troubles that hot soap causes.

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ROME SOAP MFG. CO.

WRITE US FOR SAMPLES AND QUOTATIONS

MANUFACTURERS OF
Textile, Laundry
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TENTERING and DRYING MACHINERY

"MEON"

The WONDER *Product*

MEON "T" for conditioning cotton yarns is more than a penetrant or wetting agent. MEON "T" is hygroscopic, and by virtue of its property of breaking down surface tension, insures rapid absorption. MEON "T" permanently sets the twist and removes the kinks. Any amount of water can be imparted and retained by the use of MEON "T". Therein lies a *tangible value* for the manufacturer. . . .

Can be Used in

ANY CONDITIONING MACHINE

1 gallon MEON "T" to 99 gallons water

- INSURES SMOOTH WEAVING
- INCREASES BREAKING STRENGTH
- A RUST INHIBITOR
- WILL NOT AFFECT THE BOBBINS
- ECONOMICAL
- EFFICIENT

Use it on your Tyeing-in Machine

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Originators of the BRETON MINEROL PROCESS for FIBRE CONDITIONING

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MORE than ever, little must do much. So mill superintendents are looking into their various processes with a critical eye. Those who use STAR Brand for a bleaching assistant pocket real savings in peroxide, by having baths properly stabilized.

Careful tests to measure the stabilizing efficiency of alkalis in the peroxide bath when no bleaching material is present in 3 hour periods showed:
WITH SILICATE, no change in peroxide content.
WITH AMMONIA, loss from 15-70%.

Are you acquainted with STAR Brand? Get further information and samples for your experiments.

OTHER STAR FEATURES ★ High standards of purity insure longer life bleach baths. ★ With correct uniform alkalinity, control is easier and first quality goods surer.

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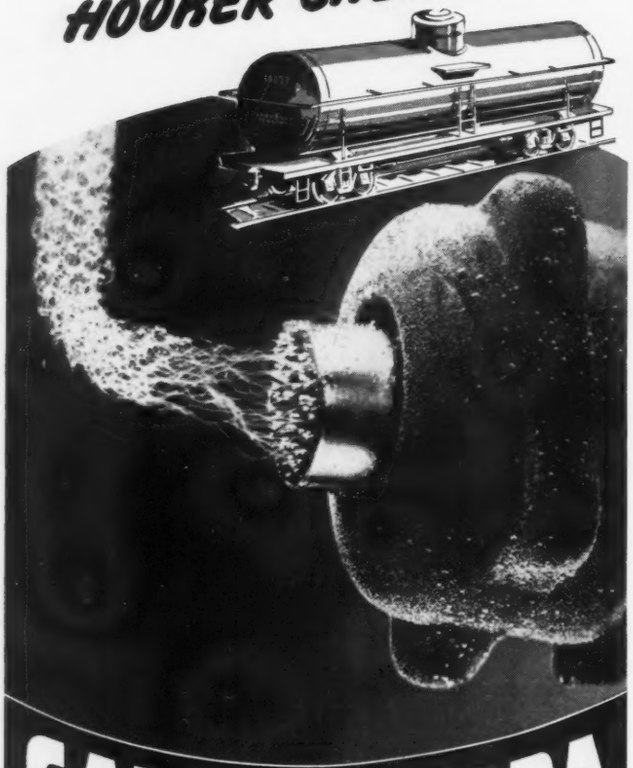
War jobs helped by HOOKER CHEMICALS



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As the largest single user of Caustic Soda, the Rayon producing industry, now focused on serving our Nation at War, relies in large measure on HOOKER as a dependable source of Caustic Soda — produced in Rayon Grade of noteworthy purity and uniformity.

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THE STANDARD DE-SIZING AGENT
for cottons, rayons and mixed goods

For your de-sizing problems — our technical men are at your service . . . Write or 'phone.

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KIER BOILING

For better whites and level results, use a pound of STANDARD Grade 40 Silicate with each 3 to 5 lbs. of caustic in your kier boiling formula. Troublesome stains are eliminated and scarce chlorine is saved.

Ask the STANDARD service staff about grey sour-silicate kier boiling procedure for better whites with less bleach.

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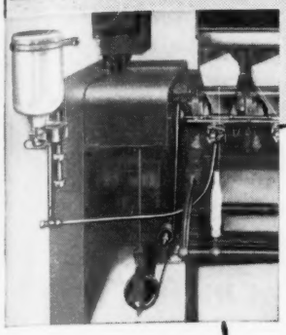
RESILIENCY for RAYON with Laureltex #40



ESPECIALLY IMPORTANT in the extended applications of rayon are added resiliency for wear and fit, more even running, fewer ends down, greater output per worker with less fatigue or strain, and high uniform finish.

Laureltex No. 40 is easily applied over roller troughs on cone winders, quilling frames or twisters.

If you want longer wear for your product, clearer stitch and good-looking merchandise, send for a sample order.

Laurel Products for the Rayon user are described in a pocket-size catalog—Write for your copy.

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Wm. H. Bertolet's Sons Established 1909
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ONYX

Many processors and finishers of textiles working on government orders are depending on Onyx products and Onyx chemists and technicians to meet specification and production demands. Rapidly changing conditions in all of the raw material fields make very necessary the closest cooperation between Onyx technicians and the textile plants to keep production going. Mills and finishing plants are urged to consult with us on their processing and finishing problems. Onyx research and production facilities are at your service. We are helping others, perhaps we can help you. Your inquiries are solicited.

ONYX OIL & CHEMICAL CO.
JERSEY CITY, N. J.

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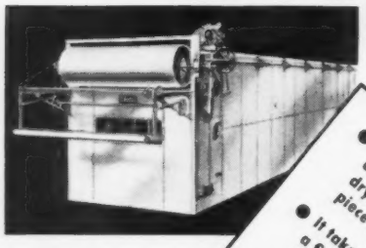
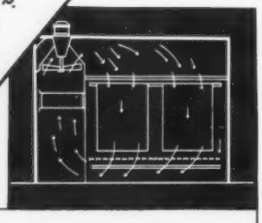
PROCTOR *Loop* DRYER



- This is a completely new type of automatic loop or festoon dryer for drying dyed or finished piece goods without tension.
- It takes goods as it comes out of a finishing quetch, or in the case of dyed goods, from a truck.
- The material is carried through the dryer while heated air, circulated at high velocity by fans of special Proctor design, is directed down into each loop.
- As the girts on which the goods is suspended move through the dryer, they revolve intermittently, so that no part of the goods is in contact with anything for any appreciable length of time.
- The New Proctor Loop Dryer assures perfectly uniform results and offers unheard-of capacity in a very compact unit.



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John:
Douglas Crown Thin Boiling Starch is made in all fluidity ranges to suit each individual mill's requirements. Let's arrange for a trial order of the type recommended for our purposes.
Jim

CLOTH-FINISHING EQUIPMENT

Drying Cylinders, Mixing Kettles, Color Strainers, Dippers and Scoops, Quetches, Compensating Rolls, Laundry-Type Washers and Dryers, Metal Trucks, Hosiery-Dyeing Machines

90% of Our Orders Are Repeats

Good will is the disposition of a customer to return to where he has been well served.—U. S. Supreme Court.

J. E. CARROLL & CO.

LOWELL, MASS.

RALPH E. LOPER CO.

INDUSTRIAL ENGINEERS

GREENVILLE, S. C. FALL RIVER, MASS.

SPECIALIZING IN TEXTILE COSTS AND OPERATING METHODS FOR MORE THAN A QUARTER OF A CENTURY

COST SYSTEMS
WORK LOAD STUDIES
PAY ROLL CONTROLS
COST REDUCTION SURVEYS
SPECIAL REPORTS

WE'VE LEARNED A LOT IN OUR 50 YEARS!

50 years of specialized experience in producing tanks and tubs for the textile industry *has taught us some things that will be valuable to you!*

Let us tell you about our complete Caldwell service, which includes Stainless Steel-lined tanks and tubs—round, rectangular and special shapes. *Catalog on request.*

W. E. CALDWELL CO.
Incorporated
2060 Brook St. Louisville, Ky.

Caldwell TANKS AND TOWERS

When You Change Your Address . .

It will help us keep your copies of TEXTILE WORLD coming to you each month if you will promptly advise us of any change of address.

A penny postcard will do—but please indicate your *old* and *new* address, and any new company connection or position.

TEXTILE WORLD
330 West 42 Street New York, N. Y.

SEARCHLIGHT SECTION

(Classified Advertising)

EMPLOYMENT : BUSINESS : **"OPPORTUNITIES"** : EQUIPMENT : USED OR RESALE

UNDISPLAYED —— RATES —— DISPLAYED

10 CENTS A WORD. MINIMUM CHARGE $2.00
Positions Wanted (full or part time salaried employment only) ½ the above rates payable in advance.
Box Numbers—Care of publication New York, Chicago or San Francisco offices count as 10 words.
Discount of 10% if full payment is made in advance for 4 consecutive insertions.

Individual Spaces with border rules for prominent display of advertisements.

The advertising rate is $5.75 per inch for all advertising appearing on other than a contract basis. Contract rates on request.

An advertising inch is measured ⅞" vertically on one column, 3 columns — 30 inches— to a page.

FOR SALE

20—**wood dye jigs,** 50", rubber rolls with motors

1—**V.Vl.** 50" horizontal **Jig extractor,** 7½ H.P. motor

1—**Hercules** 48" **centrifugal extractor,** overhead motor

1—**Tolhurst** 48" **centrifugal extractor,** complete with motor

1—**King & Gerber** 42" **centrifugal extractor** with motor

1—**Proctor & Schwartz loop drybox,** 17' long, steam coils, folding takeoff, fans motors and Reeves Drive

Also **Blowers, water filters, Permitit water softener,** Brass Jig rollers

FS-184, Textile World
330 W. 42nd St., N. Y. C.

Over Forty Years of Dependable and Confidential **EMPLOYMENT SERVICE**
for textile mills, converters and selling houses requiring managers, superintendents, stylers, designers, salesmen, overseers, second hands, fixers, etc. 'Phone, wire or write us your personnel requirements.
CHARLES P. RAYMOND SERVICE, Inc.
Phone: Liberty 6547 **294 Washington Street, Boston, Mass.**

FOR SALE

2—Davis & Furber Worsted Cards 60"x54"
2—Furbush Worsted Cards 48"x48"
2—Sargents 4 Bowl Wool Scouring Washers 48" and 36" Worsted Combs and Finishing Machinery

For further information write or call
DAVID DWARES
32 Central Ave. **Pawtucket, R. I.**

Excellent Opportunity for Creative Chemist-Salesman

Old established firm marketing operating supplies nationally direct to industry desires to emphasize expansion in textile processing oils. Interested in contacting mature and experienced "chemist-salesman" with ability to sell personally and to train sales force to sell textile oils. Please write giving details of qualifications.

SW-180, Textile World
330 W. 42nd St., New York City

WOOLEN SPINNING WANTED

Massachusetts mill requires 10,000 lbs. woolen yarn weekly, desires reputable mill to spin this on commission basis. Average two run, steady work.

BO-176, Textile World
330 West 42nd St., New York City

FOR SALE

All types of Circular and Flat Knitting Machines, also Parts and Latch Needles. State your needs or send us a sample to match.

A. LIBERKOWSKI
MELVALE MACHINE WKS.
3322 Melvale St. **Phila., Penn.**

2 Twin Multi-Needle Quilting Machines—very good condition

GENERAL QUILTING M'F'G., CO.
530 Morgan Avenue, Brooklyn, N. Y.

POSITIONS VACANT

EXPERIENCED MAN on narrow fabrics. Able to take care of looms if necessary. Must be able to set up and read construction specification on webbing. Write full details in first letter. P-185, Textile World, 330 W. 42nd St., New York, N. Y.

POSITION OPEN for Assistant Superintendent in Cotton Sewing Thread Finishing Plant of National reputation. Middle aged man preferred with experience covering all operations —dyeing to shipping room. P-186, Textile World, 330 W. 42nd St., New York, N. Y.

POSITIONS WANTED

MANAGER-SUPERINTENDENT: of Rayon Cotton or silk — better qualities of Dress fabrics, fancy stripes, and Jacquard, Tapistry, Drapery, and furniture. Technician good mechanic. Best of references. PW-187, Textile World, 330 W. 42nd St., New York, N. Y.

SUPERINTENDENT, of rayon weaving and throwing having many years of experience in modern mills, seeking new connection, excellent references. Reply to PW-188, Textile World, 330 W. 42nd St., New York, N. Y.

WANTED

USED CAMERON or similar roller and slitter to handle rolls up to 20 inches. W-189, Textile World, 330 W. 42nd St., New York, N. Y.

MINIATURE OR SAMPLE card in good condition. Cash. W-190, Textile World, 330 W. 42nd St., New York, N. Y.

PROFESSIONAL SERVICES

LANCASTER, ALLWINE & ROMMEL
Booklet—"General Information Concerning Inventions & Patents" and "Free Schedule" sent without obligation.
Established 1915
Patents—Copyrights—Trade - Marks
Suite 348, 815—15th St., N.W., Washington, D. C.

WANTED

INTERESTED IN A SET OF 2 OR 3—84" OR LARGER QUETCH ROLLS

W-175, Textile World
330 W. 42nd St., New York City

FOR SALE:

One two truck **Hurricane skein yarn dryer** with temperature indicator and regulator.

Three **Hussong #2 skein yarn dyeing machines** together with air hoist, trolley and tracks.

Located in Connecticut
For information write
FS-178, Textile World
330 West 42nd St., New York City

WANTED

Curtis and Marble Knit Goods Napper. Single Drum.

W-179, Textile World
330 West 42nd St., New York City

FOR SALE

One **Kenyon pin dryer**—6 tier—38 feet long—will take goods up to 60" wide.

One **Heathcote**—6 tier—10'6" long—will take goods up to 60" wide. Reply

FS-182, Textile World
330 West 42nd St., New York City

WANTED:

Used Proctor Schwartz two or three cylinder garnett with camel back, cut off and folder or winding head in good condition. Prefer 30 inch finishing main. State full particulars.

W-177, Textile World
330 West 42nd St., New York City

CLAMP TENTER FRAME

Windsor & Jerould, 50' long, 50" wide, reasonable, excellent condition.

FS-181, Textile World
330 West 42nd St., New York City

WANT TO BUY

3—25,000 gal. Cap. or Larger Steel Water Tanks on Steel Towers
3—750 or 1000 GPM Underwriters Fire Pumps

RUSSELL STANHOPE
305 Madison Ave. **New York, N. Y.**

FOR SALE

Small Worsted Combing Plant with supplies. Fully equipped. Excellent Condition.

BO-183, Textile World
330 W. 42 St., New York City

WANTED
Elastic Braiding Machines

13-17-25-33 Carrier Type New England Butt or Textile Makes.

W-168, Textile World,
330 West 42nd Street, New York City

New "SEARCHLIGHT" Advertisements

must be received by Oct. 1st to appear in the October issue

Address copy to the Departmental Advertising Staff

TEXTILE WORLD
330 West 42d St., New York City

SEARCHLIGHT SECTION

FOR SALE

CARDING & SPINNING MACHINERY

1—Sargent 36" Multiplex Burr Picker
2—Schofield Rag Pickers
1—6'6" Sargent Cone Duster, Metal Ends
1—48" C. & M. Fearnaught Mixing Picker
1—36" M. A. Furbush Opener
1—F. & J. 80 sp. 4" Ring Twister, tape driven
1—C. & M. Flock Cutter
1—D. & F. 24" Flax or Jute Picker

WARPING AND WINDING MACHINERY

20—#50 Universal Winders "Rebuilt" to your order
50—#90 Universal Winders "Rebuilt" to your order
5—#180 Universal Super Coners
1—40 spindle O. Lever Cop Winder
4—72" to 100" Pin and Pinless Warping Mills
12—Beaming Frames various widths
3000 Wood Spools 4" x 6"
1—60 sp. J. & B. Jack Winder
1—120 Sp. J. & B. Jack Winder
4—Allen Jack Spoolers

WEAVING MACHINERY

17 Knowles 85" Automatic Looms
10—82" C. & K. Looms, 4 x 4 box, 25 har.
2—O Lever Chenille Cutters
1—600 Hook Royle Card Cutter, Piano type

DYEING AND FINISHING MACHINERY

2—Smith-Drum 16 Arm Mercerizing Machines
1—36 roll Woonsocket D.A. Napper—80" New Wire
1—Gessner Heavy Duty Jumbo Press
1—80" D. Gessner Century Cloth Press
1—72" Gessner Century Press
1—78" C. & M. 2 cyl. Brush with steamer
1—P. & W. 66" Plush Shear
1—C. & M. 66" Plush Shear
4—Model A. P. & W. 66" Double Shear
1—66" Model B. P. & W. Double Shear, list saving
3—C. & M. 66" Double Cloth Shear
1—Rodney Hunt, type SM Soaping Machine
3—A. T. & M. Co. Underneath driven Extractors 36" to 54"
1—66" Steiner Dewing Machine
1—60" 2 cylinder P. & W. Steamer and Brush
1—E. & H. Yard Folder 66"
1—C. M. 64" two Burner Singer

FRANK W. WHEELER CO.
1837 E. Ruan St. Phila., Penna.
Phone JEFferson 4771

NORMAN M. McDOWELL
ASSOCIATES
342 E. 142 St. *REBUILT & USED* Bronx, N. Y.
BUY WITH CONFIDENCE

DYEING & FINISHING:

1—**CALENDER**, cotton, 5 bowl, 47" face.
1—**CALENDER**, embossing, 2 roll, 43" face.
1—**SEMI-DECATUR**, 72" x 12" dia. with pump & mtr.
7—**DOUBLE COMPARTMENT FULLING MILLS.**
2—**DOUBLERS** for 60" goods.
3—**EXTRACTORS** 42" to 48" motor driven.
1—**VACUUM EXTRACTOR** 62" width, PUMP and Mtrs.
2—**FOLDERS**, 42" and 46" widths.
1—**MEASURING MACHINE** 40" width.
3—**NAPPERS** (Knitgoods) 80" to 90" units, 20 rolls.
4—**NAPPERS** (Woolen) D.A. 80" to 84" units, 20 and 36 Rolls, ball bearing.
4—**NAPPERS** (Cotton) 80" wide 20 roll units.
2—**ROTARY STEAM PRESSES** 66" width, double beds.
3—**MANGLES** 42" to 66" widths, 2 roll machines.
2—**QUETCHES** 50" and 60" widths, 3 roll units.
2—**SQUEEZE SETS** 42" and 66" widths.
12—**SHEARS**, Single to 8 Blade units, 40" to 88" widths.
1—**SEWING MACHINE**, chain stitch, mtr. & Table.
1—**SEWING MACHINE**, Merrow 60 BD, mtr. & table.
1—**SINGER** 60" single burner.
1—**TENTER FRAME** (Pin Type) 20' x 66" width, stainless steel pins (double row)
1—**TENTER FRAME** (Clamp Style) 60' x 52" width, steam drum batcher.
2—**WOOLEN WASHERS** 6 and 8 String Units.
1—**DRYER (Skein)** 9' with 6' poles complete with Temperature controls, fans and mtrs.
1—**WOOL SCOURING MACHINE**, 72" wide, 3 bowl unit.

SPINNING, CARDING & WEAVING:

8—C&K 102" 4x1 **AUTOMATIC LOOMS**, mtr. drive.
110—C&K 82" 4x1 **AUTOMATIC LOOMS**, mtr. drive.
40—C&K 82" 4x4 positive takeup, belt drive.
1—D&F 3 cylinder **WOOLEN CARD**, 60 x 48, bramwell feed, barker rubs, 50 ends.
1—Whitin **TAPE CONDENSER**, 48" taking off 60 ends.
4—**SHREDDERS** 48" to 60" with **BREASTS** and **WORKERS** complete.
132—Draper Model E 41½" 2 to 6 harness.
160—C&K 42" automatic, Bobbin Changing.

We carry a large stock of spare parts, i.e., BRISTLE BRUSHES, ROLLERS, SQUEEZE ROLLS, EXPANDER ROLLS in all SIZES and WIDTHS.

Only a few of the many units available. Send for our complete catalog.
LIST YOUR SURPLUS EQUIPMENT WITH US.

FOR SALE

- Printing Machines
- Dry Cans
- Calenders
- Quetches
- Extractors
- Tendering Frames
- Beamers & Tubers
- Doubling & Folding

Looms—Warpers—Winders—#90 & #50 Universals
Ribbon Machinery & Equipment

A. & M. BLANK CO., INC.
49 STATE STREET PATERSON, N. J.
Sherwood 2-1367 Lambert 3-9523-0275

WE OFFER FOR SALE

New SILVER KING 12" x 36" Vulcanized Fibre Roving Cans in quantity lots.

33—DRAPER TWISTERS, 200 spindles each, 3" gauge, 2¼" ring, tape driven; equipped with separators 1922-1924 model. Excellent condition.

A. F. FYANS
Textile Machinery
P. O. Box 454 Fall River, Mass.

FOR SALE

2—Mycock Brass Bar Expanders for 50" goods.
1—200 Reeves Drive, sleeve bearings.
1—40" Parkhurst Burr Picker.
1—V.V. 60" Direct top Motor driven Extractor, stainless steel basket, safety covers, 220 volt motor.
1—36" Davis & Furber 12 Bar Picker or Shredder.

Bobbins—Spools—Supplies

Sole Agents for Smith Yarn Twist Tester

BAY STATE TEXTILE CO.
220 HARTWELL STREET • FALL RIVER, MASS.

FOR SALE

3—Jas. Hunter 5 Cylinder Garnetts 60"x30"
1—Jas. Hunter 3 Cylinder Garnett 60"x30"
4—Lister Nip Combs
2—Sargent Yarn Conditioning Machines
12—Sets Platt Bros. Woolen Cards
1—Horizontal Permutit Water Softener Equipment. 4 Softeners, Filter, Hot Water Tank, 2 Grease Extractors, Piping, Valves, Meters, Zeolite.
1—Small Vertical Unit Permutit Water Softener.
1—Steam Turbine & G.E. 500 KW Generator.

WANTED

Haskell & Dawes, and Brownell Twisters Sample Card.

JAMES SPEED & CO. INC.
179 Summer St. Boston, Mass.

JOHN J. McCLOSKEY, Inc.
MANUFACTURERS AND DEALERS
TEXTILE MACHINERY OF ALL TYPES
APPRAISALS WOOLEN—WORSTED—COTTON LIQUIDATIONS
NEW AND USED
Philadelphia Office: 140-142 So. Front Street. Factory Warehouse: Collingswood, N. J.

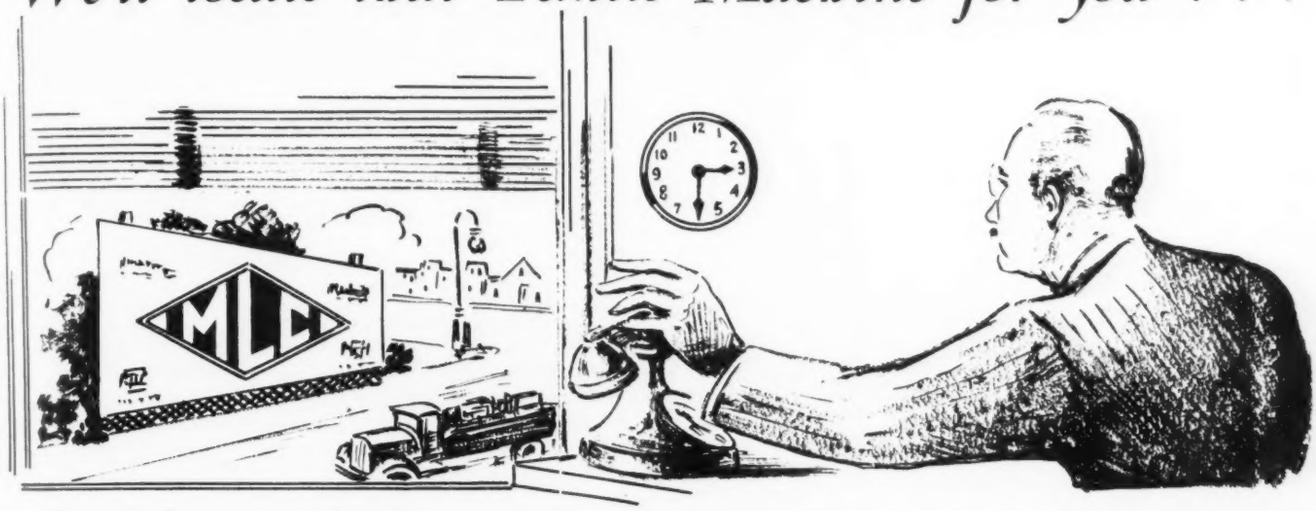
Standard Mill Supply Co.
USED TEXTILE MACHINERY and SUPPLIES
for over 45 years serving domestic and export customers.
1064-90 MAIN ST., PAWTUCKET, R. I.
512-14 W. 4TH ST., CHARLOTTE, N. C.

HOSIERY EQUIPMENT
USED OR REBUILT
Knitters: Ribbers: Loopers:
Seamers: Boarding: Dyeing
Full Fashioned Hosiery Machines
Special attention to export trade

C. M. FRENCH
Commercial Trust Bldg., 15th & Market St.
Cable: Frenchtex-Philadelphia Philadelphia, Pa.

HARRY STEPHENSON
IMPORTER, DEALER AND MANUFACTURER
TEXTILE MACHINERY AND APPLIANCES
NEW AND USED
River Works, Andover, Mass.

Yes, Mr. Mill Owner—
We'll locate that Textile Machine for you . . .



Reach for your phone—
Call PEnnsylvania 6-8014

We are cooperating in the war effort—helping textile mills locate good used machinery to step up output to meet the needs of the armed forces, lend-lease, and essential civilian requirements—frequently before the equipment is placed on the open market.

The textile industry, like every other active industry in America, is working at top speed, doing its part in winning the battle of production. Naturally, under such conditions, many mills have some idle equipment, gathering dust—doing nobody any good, because owners have been too rushed to give a thought to selling . . . because they might use it sometime . . . or because they may not have considered it a patriotic duty to release the machinery so that other mills in urgent need may purchase it.

Yes, Mr. Mill Owner, we are doing our part, locating this idle equipment—supplying it to mills urgently in need of it—aided by our industry-wide contacts, developed over the past 16 years of constant service to textile mills everywhere. Don't delay, if you need mill machinery—reach for your phone . . . Call PEnnsylvania 6-8014.

Available for AT ONCE Shipment

3—46" to 52" Van Vlaanderen Button Breakers
1—42" King & Gerber 3 roll Calender with 3/60/220 v. motor
1—48" Farmer 6-bowl Calender
1—50" Van Vlaanderen 3-roll Calender
2—sets 3-cyl. Furbush Woolen Cards 48"x60" camel back feeds Barker condensers
8—Whitin D-2 Combers
3—Whitin C Combers
1—72" Gessner 2 Cyl. Semi-Decating Machine Motor Driven
9—36" to 48" Windle Doublers
1—60" Van Vlaanderen Doubling, Tubing & Measuring Mche.
1—set of 10 Textiles 23"x60" Dry Cans, vert. fr.
1—set 23 Lincoln 88" Face Copper Dry Cans, Horizontal Frames
1—150 yd. Kenyon Return Tenter Dryer 65" opening
2—84" Proctor & Schwartz Loop Dryer
1—Hurricane Loop Dryer, 7'8" wide x 34'2½" long x 6'3½" high, inside dimensions
3—Smith Drum Paddle Dyeing Machines with motors, 1-25 lb., 1-50 lb., 1-100 lb.
1—56 Arm Mayoux Skein Dyeing Machine driven with monel and copper tanks
1—24" Empire Copper Basket Extractor, belt dr.
1—30" Hercules motor driven Extractor
1—36" Empire Copper Basket Extractor Belt Dr.
1—40" Tolhurst Copper Basket Extractor 3/60/220 v. motor. Extra Basket.
2—48" Tolhurst Copper Basket Extractors, belt dr.
10—40" to 46" Elliott & Hall Folders
2—Schultz Fulling Machines
1—60" wide, 3-cyl. 30" dia. Garnett, automatic
2—54" and 64" Inspecting & Winding Machines
35—S&W Mod. K Knitters, 48 gge. 3" to 3½" 160 to 220 N. with attachments
30—42" Draper Model K Auto. Looms, 20 h. mtr. dr.
21—56" C & K 4x4 Box Looms with 600 hook Jacq. Hds. belt driven
18—56" Eastwood 1x1 Looms with 600 hook Jacq. Hds. belt driven
12—72" C & K (4x4) Tapestry Looms with 1300 Jacq. mtr. dr.
30—82" C & K 4x1 Auto Looms 25 harness mtrized.
10—92" C & K 4x4 Box Looms
100—92" Draper Model L automatic Looms, belt driven
4—120" C & K (4x4) 25 harness Looms
2—60" P & W Selvage Trade Markers
1—24 Pole Smith Drum Skein Mercerizing Mach.
1—65" Van Vlaanderen Palmer
1—50" Morrison Triune Finishing Mach. Quetch Palmer Tenter
1—36" D & F Mixing Picker with Bromwell Feed & Spencer Oiler
1—48" C & M Mixing Picker
1—65" Voelker Rotary Cloth Press
1—42" Rice, Barton & Fales, 7-color Prtg. Mach., Dry Cans, etc.
1—43" Rice, Barton & Fales 8 color Prtg. Mach., Dry Cans, etc.
1—54" Textile Mach. Co. 8 color Prtg. Mach. complete with 2—G.E., 35 HP mtrs.
1—52" Waldron 12 color Printing Mach., complete with Westge slip ring, motor, 50 HP.
1—Nash No. 3 Hytor Pump, V-belt motor driven 3/60/220 v. with 60-brass vacuum tube
1—66" Johnson 5 cyl. Slasher
1100 W & J Tenter clips, B. O. brass face
1—90 ft. Butterworth Clip Tenter 50" mtr. dr.
4—156 sp. Saco-Lowell 7x3½ Speeders
6—184 sp. Saco-Lowell 7x2 Speeders
71—256 sp. Fales & Jenks 2¾" and 3" gge Spinners. Texrope drive
1—Pair of 60" Squeeze Rolls
10—96 Spindle Draper 4" Ring, 5" Gage, Tape Drive Twisters, M.D.
2—28 Sp. F&J Novelty Twisters with mtrs.
10—96 Sp. Draper 4" Ring, 5" Gauge Twisters, tape drive, motor driven
1—108 Sp. Saco Lowell 4½" Ring High Speed 5½" Gauge Twister 7-ply tape drive, belt driven
2—120 Sp. H & B 4" Ring 5" Gauge Twisters 4-ply band drive, belt driven
1—132 Sp. Saco Lowell, high speed 3½" Ring, 4½ Gauge Twister, 7-ply tape drive, 3-phase 3/60/220 v., motor (1924)
1—132 Sp. Saco Lowell 3½" Eadie Rings 4½" Gauge Twister, 9 ply tape drive 3/60/220 v. motor (1924)
150—128 Sp. Fletcher Dble Deck Upstroke Twisters, 7" Sp. spacing equp. with 2-3 HP mtrs.
8—192 spindle Whitin Wet Twisters 2¾ gge.
14—Collins Double Feed Roll Novelty Yarn Twisters: 7—160 sp.; 6—180 sp.; 1—192 sp.
1—48" C. G. Sargent Wool Washer Feed
1—50" P & W Winding & Measuring Machine
1—80 Sp. Foster Model 12 tube Winders with Drive Shaft Motor

EXTRA: Special Liquidation—Complete knitting mill and/or machinery and buildings, including: 8 S. & W. Latch Needle Automatic Cuff & Swiss Rib —and 12 Plain Latch-Knitters; 13 Wildman Automatic Latch Needle—and 20 Spring Needle-knitters; 23 Cooper Spring Needle Knitters; also cylinders and dials and miscellaneous knitting equipment. Write airmail for specifications.

MACHINERY LIQUIDATING CO., INC.

31-33 West 42nd St., New York, N. Y. MLC TELEPHONE: PEnnsylvania 6-8014

DOMESTIC AND EXPORT • CABLE ADDRESS "LIQUIDATE" NEW YORK

OVER 16 YEARS IN TEXTILE MILL MACHINERY • INSPECTORS . . . APPRAISERS . . . LIQUIDATORS

Quality Used Mill Machinery for Cotton, Silk, Rayon, Wool; Bleaching—Dyeing—Finishing

BETTER SUPPLIES AT BETTER PRICES

LOOM BEAMS

82—Beams 44", with 17" heads
47—Beams 46", with 17" heads
8—Beams 48", with 17" heads
258—Beams 40", with 18" heads
78—Beams 54" barrels with 20" adjustable heads
98—Section Beams with 26" wood heads
2,125,000—Regan Drop Wires 135A—50% new

L. J. McCAFFREY & SON, INC.
Box 495 Pawtucket, Rhode Island

1—Columbia-Green Single Acting Napper
2—I.B.M. Electric Time Clocks
Reeds & Harness Frames, 90" wide
New oil switches, recording wattmeter
Stock Dye Kettles, Pulleys, Shafting, Etc.

WOOL WASTE AND SHODDY

HUDSON RIVER WOOLEN MILLS
420 Madison Avenue New York City

Parkhurst 40 in. duplex Burr Picker.
Modern 48 in. Harwood Feed.
Sargent Cone Duster Iron Frame.
Payne Winders & Bobbins.
Tolhurst 40 in. Extractor.
TOMPKINS KNITTING TABLES.

EXTRA-CYLINDERS
(Both Spring & Latch Needles)
KNITTING PARTS
BURR-WHEELS
(All makes & Gauges)

Davis & Furber 80 inch NAPPER.
McCreary 4 roll Steam Calender.
Bruce Power Die Cutting Machine.
Stafford & Holt "TERRYCLOTH" Knitters
Knitting Machines.—All Kinds

SARGENT STOCK DRYER
Geo. E. Smith Textile Machinery Co.
P. O. BOX 46 COHOES, N. Y.

FOR SALE

1—Kitson Finisher Picker 40"
12—H & B Cotton Cards 40"
16—H & B Deliveries of Drawings
2—H & B Slubbers 5½x11
9—H & B Roaving Frames 8x4
5—H & B Spinning Frames 1¾
2—Foster Winders 108 spindles
1—2 Kear Dye Machine 62 lbs. each
4—108" Stafford Looms mtr. dri. Jaq head
Quantity of shafting & pulleys
1—5 story Mill Building, sprinkler 50x150' water power, for sale or rent, located in N. C.

E. P. GREENWAY
707 Pine St., Kannapolis, N. C.

What have you for sale?

FOR SALE

135—Universal #50 Winders for Tubes, Cones or Franklin Springs
3—Universal #60 GF Machines—96 Spdles.
2—D&F Double Nappers 76"—20-24 Rolls
1—P&W Single Napper—76"—4 Rolls
1—60" Tolhurst Extractor—Belt Drive

PAWTUCKET MILL SUPPLY CO.
41 River Street Pawtucket, R. I.

USED PICK COUNTERS

For sale several hundred used double pick counters in good condition.

COUNTER EXCHANGE
P. O. Box 3095 Charlotte, N. C.

FOR SALE

1100 ABBOTT WINDER

4 Degree Cones, Cork Covered. Can ship immediately. Price and samples on request.

FS-163, Textile World,
330 West 42d St., New York City.

LIQUIDATING

EXCELLENT FINISHING EQUIPMENT
COTTON—RAYON—WOOL

7—**Hercules & Tolhurst Extractors** 30"—60" Copper, Rubber Baskets, Md. & D.D.
6—**W. & J. and V. V. Tenter Frames,** 30' to 90' Stainless and Brass Clips.
1—72" Full Width Washer, 2 Sets Rubber Nip Rolls.
1—80" **Full Width Washer,** 3 Roll Mangle Ball Bearing, Rubber Rolls.
1—V. V. 19' **Dye Kettle.**
4—30" to 48" **Stainless Dye Kettles.**
6—**Can Dryers,** Copper and Steel, 45" to 107" Face.
4—**Stainless and Monel Dye Jiggs,** 50" to 60".
1—**King & Gerber** 65" 3 **Roll Finishing Calendar.**
1—**V. V.** 60" 3 **Roll Finishing Calendar.**
3—**P. & S. and National Continuous Rubber Dryers.**
6—**Copper Jacketed Mixing Kettles,** 50 to 350 Gallons.
5—**Print Machines,** 1 to 10 Colors.
1—**Continuous Boil Off Unit.**

Misc. Shears, Decators, Brushes, Soap Kettles, Rubber Lined Storage Tanks, Tubers, Folders, Doublers, Palmers, Embosses, Pumps, Motors, Sewing Machines.

Special Offering—$100,000 Modern Water Softening & Filtration Equipment, including:
2—Permutit 10' x 17' Water Softeners.
7—Hungerford & Terry 8' x 20' Filters.
Large quantity Zeolite, Water Pipe, Meters, Tanks, Ammoniators, Chlorinators, Chemical Feeders.

REPUBLIC TEXTILE EQUIPMENT COMPANY, Inc.
40 Worth St. Phone WOrth 2-4583 New York City, N. Y.

TEXTILE AUXILIARIES

OFFICE & WAREHOUSE 15-17 ORMSBEE AVENUE PROVIDENCE, R. I. TELEPHONE: DEXTER 9650

FOR SALE FROM STOCK:
1 – Toledo Springless Tap Scale
1 – Bushnell Knuckle Press
5 – Padders – 40" – 48" – 50" – 66"
3 – 5 Bowl Calenders – 50" – 54" – 56"
1 – 3 Roll Mycock Brass Expander 42"
1 – 90° Textile Frame 54"
1 – 30" W & J. Tenter – Let off and Take on

WANTED:
1 – 2 or 3 Roll
Hydraulic Calender
54" wide

Send us your list of surplus machinery. We buy single items as well as whole plants. TRY US FIRST!

If it is TEXTILE-FINISHING MACHINERY you want – We have it in stock

These items offered represent only a small part of our stock.

FOR SALE FROM STOCK:
1 – 40" Tenter 60" wide (new)
2 – Sets Copper Driers 66" and 60" wide 5' diameter
1 – 50" 4 Box Continuous Dyeing Machine
1 – V. V. Starch Mixer 42"x21"x22" – Motor
1 – Set of 2 Copper Jack. Kettles – Agitator 100 Gal.
1 – 54"E&H Adjustable Hooker
200 M. & W. Bottom Opening Tenter Clips

FOR SALE

2—Whitin Quillers for Braider Bobbins 378 Spindles each.
2—Foster make tube winders. 6" package. 40 spindles each.
7—Ball Winders. Franklin Mach. Co. make, 8" Gauge or space between spindles.
10—Ball Winders. Silver & Gay make. 5" Gauge.
7—Rubber Thread Covering machines. 40 sp. each.
1—Atwood make, 12 spindle spooler, for putting threads onto sewing thread spools. Automatic.
1—Atwood 8 spindle Automatic spooler for threads.
1500—BRAIDING machines, for making Parachute Cords, Shoe Laces, Military Cords, Military Braids, Tapes, etc.

ROBERT SOLOMON & CO., INC.
162 Greene Street New York City

FOR SALE

65—BANNER CIRCULAR KNITTING MACHINES, 3½" cylinder, 300 needle, 70 gauge, #3 Nib Jack patterning attachment, lace welt, reduced stitch graduation and tuck attachment, French heel and cradle sole. High cylinders. Serial Nos. 78,700 to 83,400.

JONES MACHINERY COMPANY
P. O. BOX 1093 ATLANTA, GEORGIA

GAINES TEXTILE MACHINERY CO.

Dealers in Rebuilt and Guaranteed Yarn Winding and Spinning Machinery

141-45 West 17th Street New York, N. Y.

DISTINGUISHED FLYING CROSS

For heroism or extraordinary achievement while participating in aerial flight.

NUMBER THREE OF A SERIES

Symbols of Distinguished Service..

"CONSOLIDATED" Service is distinguished today by our rapidity in supplying production equipment to American War Industries producing essential materials needed to "Keep 'em Flying, Rolling, Marching and Sailing" to Victory! Plan your added PRODUCTION LINES with "Consolidated" Equipment . . . and you plan for maximum production in the shortest possible time. Make your selections from our large stock, which we have bought and own. NOW—when delay MUST be avoided

FOR 25 YEARS A SYMBOL OF CONFIDENCE

- **The Textile Industry has confidence in this symbol** — Whether you want to buy or sell a single item or a complete plant — or LIQUIDATE a plant wholly or in part — depend upon "Consolidated" for prompt and satisfactory *Service.*

PRINTING MACHINES
4—Rice, Barton & Fales 8-Color 64", 42", 40" comp. Print Machine accessories including color pans, mandrels, star gears, furnisher gears, bearings, etc.

CALENDARS
1—Perkins 3 roll hydraulic Calendar.
2—Van Vlaanderen Ball Bearing Calendars, 50" face.
2—Morrison Ball Bearing Calendars, 50" & 60" face.
1—Morrison 3-Roll 64" Ball Bearing Calendar.

PALMER QUETCHES
2—Morrison & Van Vlaanderen 60" Palmer Quetch Units ball bearing.

AGER
1—Cast Iron Vat Ager, 4'-9" wide, 7'-6" high, 18' long.

STEAMERS
2—Steamers, 8" dia., x 20" long.
1—Devine Steam Jacketed Steamer, 5' dia., x 11' long.

KETTLES
1—Textile 200-Gallon Copper Jacketed Tilting Agitated
2—Textile 100-Gallon Copper Steam Jcktd. Tilt. Agit.
2—Textile 70-Gallon Copper Steam Jcktd. Tilt. Agit.
3—Textile Copper Steam Jacketed Tilting Agitated Kettles, 50, 40 & 30 gallons.

LOOP AND NET DRYERS
1—National Loop Dryers, 28', 33' and 65" long.
2—Proctor & Schwartz Airlay Dryers.
1—Van Vlaanderen 66" 7-Tier Net Dryer, fin heaters.

PRINT PADDER
1—3-Roll Print Padder, consisting of Drying Tower with Unit Heater.

3200 Standard W-Bore Copper Print Rollers With Designs, 28" to 48" in length, 14" to 20" in circumference.

COLLOID MILLS
1—Charlotte Homogenizer or Colloid Mill.
1—10" Premier Colloid Mill.

DYE JIGGS
1—Battery of 4—Butterworth Stainless Steel Lined Dye Jiggs, 45" face.
4—Lincoln 50" Dye Jiggs.

TENTER FRAMES
2—Winsor & Jerauld 50' Frames, with Morrison stainless steel clips.
2—Van Vlaanderen and Windsor & Jerauld 60' & 70" Frames.

CAN DRYERS
22 Sets—Copper Can Dryers in sets of 6, 7, 8, 10, 22, 23, and 25. Diameters—23", 30", 60" & 72". Widths—44", 48", 50", 45", 90", 100" and 108".

SCOURING & DYEING MACHINES
1—Sargeant 3-Bowl Skein Scouring Machine.
10—Klauder Weldon Skein Dyeing Machines 20, 28, 30 sticks. Hoist type.
1—Obermeier Package Dyeing Machine.

FULLING MILLS
6—Rodney-Hunt Fulling Mills. Gear Drive.

DOUBLERS
1—Parks & Woolson 66" Doubling, Reeling and Measuring Machine.

FLAT FOLDERS
4—Elliot & Hall Flat Folders, 42" to 60" wide.

OPEN WASHERS
1—Continuous Full Width Washer, consisting of 10 sections, 4 nips each section, 66" face rolls.
3—Rodney Hunt Full Width Washers, 66" x 12" rubber squeeze rolls.
1—60" Continuous Boil-Off Machine, steel tanks.

YOU CAN BUY USED TEXTILE MACHINERY WITH A PRIORITY OF A9 OR BETTER

• *NEW—Another "Consolidated"* LIQUIDATION

MODERN RAYON DRYING AND FINISHING PLANT
Located at Paterson, N. J.

Curtailing Operations due to Business Conditions

We offer for IMMEDIATE DELIVERY the following excellent equipment

2—Palmer Quetch Units, Morrison and Van Vlaanderen, 60" and 66".

4—Calendars, ball bearing, Morrison and Van Vlaanderen, 50" and 64" face.

2—50" Windsor & Jerauld TENTER FRAME, 54" wide, one 44", stainless steel clips.

1—48" Van Vlaanderen Centrifugal Hydro EXTRACTOR, 48" dia. x 18" deep. Copper basket.

2—55" Van Vlaanderen Beamers. General Electric Co. motors.

1—66" Parks & Woolson CLOTH DOUBLING & BOARDING MACHINE, Springfield type.

4—Elliot & Hall FLATFOLDERS, 42", 48", 54" and 60".

1—50" Morrison BUTTON BREAKER.

1—66" Van Vlaanderen SEVEN TIERS 33 FOOT DRYER. Cork covered rods, Aerofin heaters, motor driven fans.

2—50" Werner Silk RUBBING MACHINES, 41½" and 43" face.

1—60" Continuous Boil-Off Machine consisting of one steel tank 72" wide x 35' long, 30" deep, stainless steel Reels and Conveyors. Suitable for setting Romaines, Alpacas, Magic Hours, Master Piece and similar plied yarns.

29—Dye Becks, Morrison, Van Vlaanderen and General, 21" to 6 ft., stainless steel and wood boxes.

ROPE SOAPERS
2—Rodney Hunt 10' Rope Soapers.

SHEARS
3—Parks & Woolson Double Blade Shear, 66", with list saving device.
1—Parks & Woolson 3-Blade Shear, 60½" with list saving device.

BLEACH HOUSE
2—Bleach House Jay Pilers.
10—Bleaching 4-5 Ton Kiers, Vomit Type.
1—5-Ton Kier, Circulating Type, with external heater, pump and motor.
2—Lincoln Double Roll Chemical Squeeze Rolls.
2—Arlington Rope Squeezers with clutch pulley drive.

BEAMERS—BATCHERS
2—Van Vlaanderen 55" Beamers.

VACUUM PUMPS
1—Conersville Root Blower, 16 x 16, capacity 1500 Cpm.
2—#3 and #4 Nash Hytor Vacuum Pumps.
Misc!: Scuthers, Expanders, Generator Sets, Air Receivers, Sewing Machines, rubber lined Tanks, Modine Heaters, Motors, Exhaust Fans, Pleaters, Mandrils, Doctor Blades, Gears, Lathes, Accumulators, etc.

DECATERS
2—David Gessner & Parks & Woolson 72" and 48" wide, complete with Nash Pumps.
5—Nappers.

RUBBING MACHINES
2—Werner 50" Rubbing Machines.

DYE BECKS
29—Dye Becks, Morrison, Van Vlaanderen & General, 3' to 8', stainless steel and wood boxes.

EXTRACTORS
2—Van Vlaanderen 60" Rubber Lined Basket Extractors.
1—50" Copper Basket Extractor, under driven Centrifugal machine, complete.
10—48" Extractors, Burkhardt, Van Vlaanderen, Fletcher, Tolhurst, and Haring & Stephen; copper and rubber lined baskets.
2—Tolhurst 44" Extractors, Copper Lined Baskets.
1—King & Gerber 42" Extractor, copper basket, self-balancing type.
10—Self balancing Extractor, Tolhurst, American, Laundry, Adams and Troy, copper lined basket, 40", 32", 28", 26" and 20".

WORSTED SPINNING FRAMES
25—Ring Spinning Frames, 160 spindle each, 3½" pitch, 8" traverse, 1¾" ring, 4" front roll.

BUTTON BREAKERS
2—Textile & Van Vlaanderen Button Breakers, 60" & 72", brass rolls.

PADDERS, MANGLES, QUETCHES
4—Textile 50" 2-Roll Dye Padders.
7—Butterworth and Textile 50" 2-Roll Starch Mangles.
2—Textile 80" 2-Roll Mangles.
8—Butterworth and Morrison 2 and 3-Roll Quetches, 50", 60" and 72" in width.

MERCERIZING RANGE
1—Complete Mercerizing Range.

WATER SOFTENERS
1—Permutit Water Softener, 103" high, 63" wide across center, clean out 13" x 17".
2—10 x 10 Vertical Softeners Zeolite piping, valves, meters and fittings.
2—Pressure Sand Filters 7' dia. x 18' long, complete with pipe connections, valves and fittings.

SINGEING MACHINE
1—80" two-burner Singeing Machine.

Remember we buy single items or complete plants. BUY WITH CONFIDENCE

FOR 25 YEARS A SYMBOL OF CONFIDENCE

CONSOLIDATED PRODUCTS CO., Inc.

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Address Inquiries to TEXTILE DIVISION, PATERSON, N. J., 5th Ave. & McClean Blvd. — Cable Address: Equipment, N. Y. — Tel. ARmory 4-6540

Supplying Equipment for: PROCESS • TEXTILE • MINING • FOOD • CHEMICAL • PLASTICS • CEMENT • PAINT • ROCK PRODUCT • RUBBER

"Praise the Lord and *Pass the Ammunition*"

THIS Pearl Harborism,* uttered by a fervent Navy chaplain, will live in our school books long after today's headlines and swaying battle lines have passed into history.

It exactly expresses the unique combination of the spiritual and the practical which is inherent in our national character.

. . And America IS *passing the ammunition.* Starting with an atrophied military explosives industry in 1939, the Production for Defense program had raised the rate of "passing the ammunition" by 1400% at the time the chaplain spoke.

▶ Since then, according to an official statement of Donald Nelson:

"Explosives and ammunition are being made at many times the rate of last year as newly constructed plants come into operation. TNT is being made at a rate five times that before Pearl Harbor. Smokeless powder is being produced at a rate almost twice that before Pearl Harbor. One new plant is making more TNT today than the entire explosives industry produced in peacetime and there are several of this type of plant."

Incendiary bombs are vital ammunition in the kind of war we are in. America's chemical industry is far ahead of schedule in passing along that potent ammunition.

Magnesium is part ammunition, part construction material. You know it's now being taken from sea-water, but do you know that we are making at least 100 times as much magnesium now as we did in 1938?

100-octane gasoline isn't ammunition, but it's handy to have around in a war, because bombers using this product of American chemistry can carry an extra ton of what it takes to win.

Synthetic rubber is another necessity in passing the ammunition. The Chemical Industry faces the staggering job of producing more rubber than all the rubber trees in the world were able to pour into the American market prior to the war . . . 875,000 tons per year by 1944 is the goal. Those of us who have seen tank-factories and shipyards grow faster than the corn-crops they replaced believe the Chemical Engineers of America will do the job.

What is the secret of these amazing modern counterparts of the frontiersman's ability to turn from peace to war?

▶ One of the important answers is Chemical Engineering. We just naturally have more men and more machines that know how to make a molecule behave than any two nations on earth.

Starting after World War I, our chemical engineers used the experience gained in guncotton factories to develop the vast peacetime Chemical Industry which gave you rayon, lacquer, transparent wrapping paper, plastic telephones, knockless gasoline, shatterproof glass, synthetic vitamins, laboratory-fathered medicines, plastic tips for your shoe laces, nylon hosiery, and thousands of other comforts to help you live a peacetime Life of Riley.

This vast activity of making life more livable for peaceful Americans had created an enormous pool of management and production men in our chemical industries.

When war came, these men answered their country's call, by rearranging their peaceful atoms into bellicose molecules that would explode, fly, float, shoot or stop a bullet.

Today, fertilizer, salt, whiskey, rayon, even pine stumps are being turned into products of unrecognizable ferocity.

▶ When the war is over, it will be the imagination of the Men of Chemistry that will set our great new war-chemical plants upon a new era of peacetime fruitfulness. Even while the chemical engineer is breaking production records for war, he is planning for a peacetime production that will revert these molecules toward serving our daily lives. Chemical Warfare will become Chemical Welfare, through Imagination.

★ ★ ★

In recognition of the miracle of war production—accomplished through the cooperation of American management and labor with the W.P.B. . . . this 7th in a series of newspaper advertisements is published by the McGraw-Hill Network of Industrial Communication.

*Also title of Gene Lockhart's famous fighting song of World War II

McGRAW-HILL PUBLISHING COMPANY, Inc.

330 WEST 42ND STREET . . NEW YORK

This advertisement appears in a group of newspapers on Wednesday, September 9, 1942

. . . . . and pass the INFORMATION

WHEN an American gunner calls for ammunition, whether he wears a cross—like the chaplain in our newspaper advertisement—or a tattooed mermaid, he sets in motion the mightiest war-machine on earth . . . American Industry.

Knitting together all the industries of America, making it possible for them to turn *quickly* from peace to war, is the Industrial Press.

When the gunner yells for AMMUNITION, industry yells for INFORMATION. It is the job of the industrial magazines to supply it.

"What do we do when we can't get stainless steel for a Toluol recovery plant?"

"Which is the best section of the country for locating our new plant, considering power supply, bombing range and transportation?"

"How can we step-up the alcohol output of our stills, without using scarce metals?"

"What's the best method of training 18,000 green hands to get quick operating efficiency?"

These are typical of the questions that flow over the desks of our editors day after day.

They keep nearly 900 McGraw-Hill editors and engineer-correspondents busy, making field calls, finding the best answer to each problem and reporting the results to management and production men.

Industrial advertisers supplement this work by showing how their products meet specific needs.

This constant interchange of information is part of the strength and adaptability of American Industry.

It is so important that executives are surveying their organizations to make sure that the supply of Industrial Magazines is adequate.

If you would like suggestions as to how to conduct such a survey, write to The Reading Counselor, McGraw-Hill Publishing Company, Inc.

* * *

THE McGRAW-HILL NETWORK

23 publications, which gather "war-news" from the "war-production-front" through a staff of 153 editors and 725 engineer-correspondents . . . More than 1,000,000 executives, designers, production men and distributors use the editorial and advertising pages of these magazines to exchange ideas on war-production problems.

THE McGRAW-HILL BOOKS

Publishers of technical, engineering and business books for colleges, schools, and for business and industrial use.

McGRAW-HILL PUBLISHING COMPANY, Inc.
330 WEST 42nd STREET • NEW YORK

THE McGRAW-HILL NETWORK OF INDUSTRIAL PUBLICATIONS

American Machinist
Aviation
Bus Transportation
Business Week
Chemical & Metallurgical Engineering
Coal Age
Construction Methods
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Electrical Merchandising
Electrical West
Electrical World
Electronics
Engineering & Mining Journal
E. & M. J. Metal and Mineral Markets
Engineering News-Record
Factory Management & Maintenance
Food Industries
Mill Supplies
Power
Product Engineering
Textile World
Transit Journal
Wholesaler's Salesman

AT BATTLE STATIONS

IN THE LABORATORY

The men in Australia . . . Africa . . . Iceland . . . and Great Britain are fighting our war . . . but so are the techicians in scientific laboratories. For these fighters on the home front are providing better weapons for the men abroad. At the United States Testing Company, Inc., technicians are on 24-hour duty . . . testing such war materials as parachute fabrics, flare cloths, uniform fabrics, canvas, sand bags, zippers, chemicals, blackout materials, metal bars, airplane struts, sound-proofing materials, gauges, instruments, and many others.

UNITED STATES TESTING COMPANY, INC.

ESTABLISHED 1880

HOBOKEN, NEW JERSEY

PHILADELPHIA, PA. GREENSBORO, N. C. WOONSOCKET, R. I. CHICAGO, ILL. NEW YORK, N. Y.

NEW PROBLEMS ARISE FROM NEW FIBERS

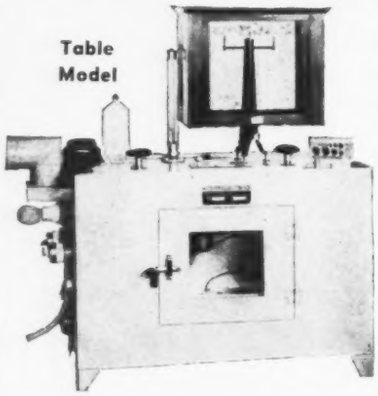
BUT NO MATTER WHAT TYPE OF FIBER YOU EMPLOY YOU CAN COUNT ON

EMERSON CONDITIONING OVENS

for testing moisture content in raw materials, stock in process, and finished goods

ELECTRICALLY HEATED AND CONTROLLED

Table Model



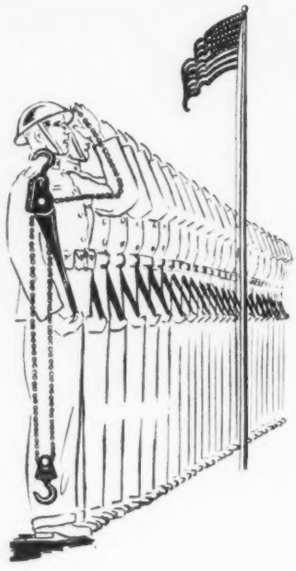
EIGHT - BASKET OVEN. Can be equipped either with eight baskets 3" x 3" square and 6" deep or with six baskets 4¼" x 4¼" square and 6" deep. Sets on table.

For different branches of the industry—wool, cotton, synthetics, etc. —we make different types of oven, equipped with baskets to fit the work, whether bulky or small samples.

EMERSON APPARATUS COMPANY

177 Tremont St.

Melrose, Mass.



COFFING Safety Pull RATCHET LEVER HOISTS

Are on the job for UNCLE SAM

Conserve Your Hoists and

HELP WIN THE WAR

See Your Distributor or Write for Catalog No. J G-6

COFFING HOIST COMPANY

Ratchet Lever, Spur Geared and Electric Hoists

800 WALTER ST. DANVILLE, ILLINOIS

FOR AN EXPANDING MANUFACTURER

• Located in a fine little Maine village 50 miles from Portland, this plant offers many advantages to the manufacturer who has new defense orders or who is moving, expanding or decentralizing.

The buildings are in excellent condition with ample space for manufacturing and storage. Friendly, intelligent labor. Water for processing and electrical energy. Fast transportation facilities to Boston, New York and all principal eastern markets.

Maine has no State income tax, no sales tax, no machinery tax, no corporation tax. There are a few other plants ready for occupancy and many business sites available. State requirements of your business. Address: Maine Development Commission, Room 392, State House, Augusta, Maine.

MAINE INDUSTRY

MAINE DEVELOPMENT COMMISSION

Sterling Ring Travelers

RATIONING

Transportation difficulties will have some effect on the usual calls of our representatives. We are all honestly trying to do our part, so if you need anything, don't put it off. Cooperation is needed. Write to them or us at once.

Southern representatives

GEORGE W. WALKER
Box 1894 Greenville, S. C.

D. J. QUILLEN
Box 443 Spartanburg, S. C.

SOUTHWEST SUPPLY CO.
Box 236 Itasca, Texas

STERLING RING TRAVELER CO
FALL RIVER, MASS.

WASHBURN HI-SPEED WARPER BEAMS
PATENTED

MODERN WARPING
requires
MODERN BEAMS

If you are using Washburn Beams, you know Modern Beams . . . if not . . . Write for Circular 7-XL.

Detailed information, based on your own Warping and Slashing requirements, will be submitted promptly upon request.

• *Specify Washburn Multibond Beam Heads* •
Rock Maple throughout—no joints in faces.
May be applied to any beam.

WASHBURN
IF IT'S ROLLS, WE MAKE THEM
WASHBURN MFG. BY WASHBURN NEW BEDFORD MASS.

224-234 North Water St., New Bedford, Mass.

THIS BOOKLET POINTS WAY TO BETTER MILL SANITATION... TELLS HOW TO DO 3 JOBS IN 1 OPERATION THE OAKITE WAY!

War-time production, with its EXTRA personnel and ADDED shifts, multiplies mill hygiene hazards . . . makes it MORE IMPORTANT than ever before to safeguard workers' health and prevent infection! It is why we say . . .

SEND FOR YOUR FREE COPY!

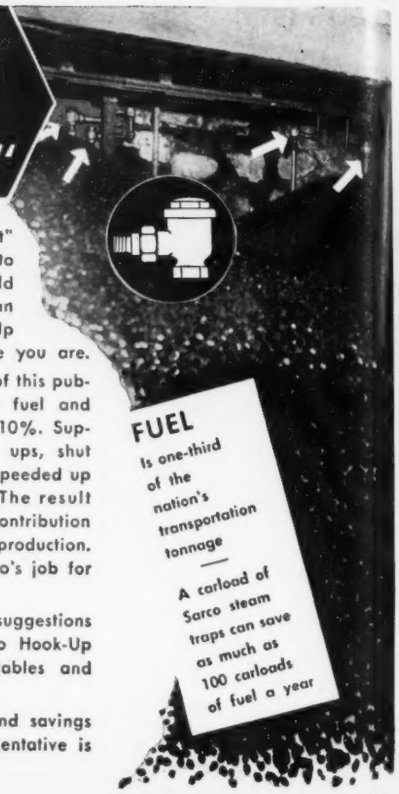
It describes how Oakite Deodorant No. 1 puts mill sanitation on a MASS PRODUCTION efficiency basis . . . deodorizes, cleans, disinfects washrooms, lavatories, shower stalls, locker rooms . . . does ALL THREE jobs in ONE simple operation, at ONE low cost, to save you time, man-hours, money. Write today!

OAKITE PRODUCTS, INC., 42 Thames Street, NEW YORK, N. Y.

Representatives in All Principal Cities of the U. S. and Canada

OAKITE MATERIALS METHODS SERVICE — Specialized — **CLEANING** FOR EVERY CLEANING REQUIREMENT

THE ANSWER TO "What can I do?"



Do you feel "stuck with it" for the duration? Like to shoulder a gun? So would most of us — but you can probably do more to help win the war right where you are.

Suppose every reader of this publication were to reduce fuel and water consumption only 10%. Suppose this reduced slow ups, shut downs, and rejects, and speeded up production only 10%. The result would be a tremendous contribution to victory in this war of production. That's your job and Sarco's job for the duration.

A hundred or more suggestions are shown in the new Sarco Hook-Up Book with calculation tables and recommendations.

Begin the speed-up and savings now. Our nearest representative is ready to help you.

FUEL Is one-third of the nation's transportation tonnage

A carload of Sarco steam traps can save as much as 100 carloads of fuel a year

141

SARCO SAVES STEAM

SARCO COMPANY, INC.
475 Fifth Avenue, New York, N. Y.
Sarco Canada Ltd., Federal Bldg., Toronto, Ont.

for Results

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These names are of particular value now when most manufacturers are experiencing constantly increasing difficulty in maintaining their own lists.

Probably no other organization is as well equipped as McGraw-Hill to solve the complicated problem of list maintenance during this period of unparalleled changes in industrial personnel. These lists are compiled from exclusive sources, based on hundreds of thousands of mail questionnaires and the reports of a nation-wide field staff, and are maintained on a twenty-four hour basis.

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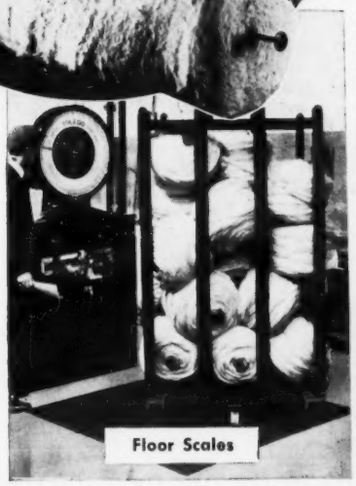
Single Fold, Double Fold, or Black Core—for high quality at low cost. The Victoria Paper Mills Company, Fulton, New York.

Founded in 1880

TURN OUT TEXTILES *Faster*

● Now that top-speed is demanded in textile production . . . there's a greater-than-ever need for TOLEDO *accuracy, speed* and *dependability* at every weighing point in your plant! Toledos appeal to practical men . . . these scales expertly designed for every textile weighing job . . . ruggedly built to "take it"! Send now for illustrated "Toledo Textile Book." Toledo Scale Company, Toledo, Ohio.

TOLEDO TEXTILE SCALES



Accurate PRINTED weights eliminate costly human errors in reading and recording weight figures! Toledo Printweigh meets Textile production needs with unerring *printed* records and greatest speed! Prints BIG figures FAST . . . on thick tickets . . . sheets . . . or strips . . . with extra copies.

DAVIS AND FURBER

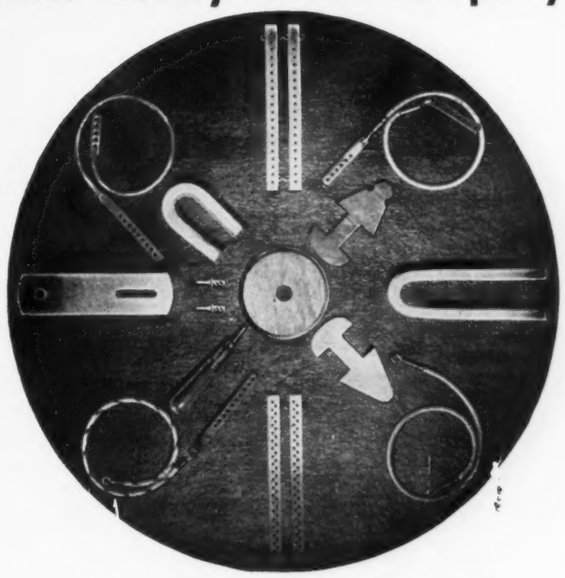
Earn a Manufacturing Profit
By Using the Best
Machinery and Supplies

DUSTERS
PICKERS
CARDS
MULES
WOOLEN SPINNING FRAMES
SPOOLERS
DRESSING FRAMES
NAPPERS
CARD CLOTHING
NAPPER CLOTHING
GARNETT WIRE
LEATHER RUBB APRONS
LEATHER CONDENSER TAPES

DAVIS & FURBER
NORTH ANDOVER, MASS.

THE ACCEPTED STANDARD

Rice Dobby Chain Company



"Service & Quality"

MILLBURY-MASSACHUSETTS
U. S. A.

Samples on request

Southern Representative
MR. JOHN P. BATSON,
P.O. Drawer 1055, Greenville, S. C.

APPROVED
DANDUX
BASKETS
MADE BETTER
LAST LONGER

BUILT to exacting quality standands of finer materials, they have been preferred in the textile field, because their superior construction assures longer life, greater durability and satisfaction. Yet they cost no more than the ordinary.

You, too, will find greater value in Dandux Baskets, Hampers and Trucks.

DANDUX
QUALITY
CANVAS

C.R.DANIELS, INC.
Manufacturers of Everything of Canvas
101 CROSBY ST. • NEW YORK, N.Y.
Newark • Boston • Buffalo • Chicago • Cleveland • Detroit
Milwaukee • Philadelphia • Pittsburgh • Alberton, Md.

Change Now!

OIL to COAL

CO-OPERATE WITH THE GOVERNMENT

NOW IS THE TIME TO CONVERT YOUR STEAM PLANT FROM FUEL OIL TO COAL

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